

## WHEN'S GOOD FOR YOU?

Emerging Companies: Start-up Time Dance aims to end scheduling hassles with Web tool. Page 54

## COST VS. PROFIT

QuickStudy: Find out if your business unit is a cost center or a profit center. Page 47

## STOREFRONT DETECTIVES

Companies that rely on online business discuss how they monitor their Web sites. Page 56

# COMPUTERWORLD

THE NEWSPAPER FOR IT LEADERS • WWW.COMPUTERWORLD.COM

AUGUST 2, 1999 • VOL. 33 • NO. 31 • \$4 COPY

## Y2K MEANS NO REST FOR THE WEARY

Time-off policies may extend to year's end

BY STEWART DECK  
AND CRAIG STEEDMAN

A busy summer with plenty of year 2000 system testing has squeezed summer vacations for some IT workers, but it's going to get worse. Upcoming winter vacations for IT staffs are being eliminated or restricted almost universally, according to interviews and an exclusive Computerworld survey.

Information technology folks will be required to stick

### No Rewards

Is your company giving any compensation or rewards to its IT staff for vacation restrictions?

No rewards or compensation	39%
Bonuses	19%
Extra vacation after restrictions are lifted	11%

Base: Survey of 64 IT managers at companies with 500 employees or more, and whose vacation policies have been changed due to Y2K.

SOURCE: COMPUTERWORLD IT INTELLIGENCE UNIT, FRAMINGHAM, MASS.

close to home and keep going to work in December and January. Yet close to 40% of their employers aren't planning to reward them with money or other time off, despite the continuing labor crunch.

Of 150 companies surveyed, 43% said Y2K projects have

Vacations, page 16

## E-RETAILERS FIXING IT FOR CHRISTMAS

Sites urged to be ready by October to cash in

BY CAROL SLIWA  
AND STEWART DECK

Christmas shoppers buying gifts from Eddie Bauer Inc.'s Web site last year may have felt high-tech. But behind the scenes, employees were hand-keying those orders into the company's back-end system.

This year will be different.

Eddie Bauer, like many merchants on the Web, is gearing up for a holiday season that may reach \$5 billion, according to Forrester Research Inc. in Cambridge, Mass. So experienced electronic retailers are adding hardware and software.

Online Retailers, page 16

## COMPAQ TO CUT 8,000 WORKERS

DEC purchase, cheaper PCs still exacting toll

BY MATT HAMBLIN

Compaq Computer Corp. last week tried to convince the world it's making a turnaround by announcing layoffs of up to 8,000 employees, or 11% of its workforce — and promising profitability by September, following two quarters of losses.

Users and analysts said new Compaq CEO Michael D. Capellas deserves credit for

Compaq, page 77

## NO RUSH TO REDO APPS FOR WIN 2000

Rewriting old apps to use new features seen as costly, but new apps will benefit

BY DAVID ORENSTEIN  
AND SHARON GAUDIN

Microsoft Corp. last week exhorted corporate developers to write new applications to get the most out of Windows 2000, rather than overhauling existing ones. But resource-strapped users said they prefer to revise existing applications and will resort to rewrites only if there's an overwhelming benefit and a compelling need.

Many users said they will chug along for a while without the extended capabilities offered by Windows 2000, such as Active Directory and self-

healing installation.

"The best scenario is that you're building new Windows 2000 applications. My guess is that it's a more expensive enterprise to retrofit your applications after the fact. There are significant changes in the application specification," warned Craig Beilinson, a Microsoft Windows 2000 product manager.

"I would approach [that recommendation] very cynically,"

countered Gary R. Ritchie, senior architect at Pepsi-Cola Co. in Somers, N.Y. "I don't have an unlimited budget."

Users don't have to rewrite most of their current applications to run under Windows 2000 — only if they want to take advantage of the new feature set offered by the operating system. But some older software, such as 16-bit programs, may need a rewrite to work at all. The problem with Beilinson's recommendation, users said, is that they don't have enough time, money or people to write new applications just to make

Win 2000, page 77



JIM ALLCHIN talks about Win 2000. See page 77.



DAVID ROUSSAIN, vice president of e-commerce at Federal Express, is spending nearly \$1 billion on systems integration projects to link the FedEx logistics network with the order entry and inventory systems of Internet retailers

## CYBERLOGISTICS

**E-COMMERCE** WHEN ONLINE SHOPPERS fill their electronic shopping carts and click the "order now" button, it triggers a flurry of behind-the-scenes activity in the physical world to actually deliver the goods. Storing, packing, shipping and tracking the merchandise is a booming business for logistics outsourcing companies, reports Julia King, and they're investing millions in IT to create an online supply chain with Web retailers.

Report is on page 24.

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## THE PROJECT OFFICE

Royal Bank's project office, managed by Lesley Bell (pictured) is helping project managers "with blood on the tracks" improve results, cut costs and manage resources. Page 44



## MOVABLE FEAST

Why food services provider Sodexho Marriott chose the Vadem Clio for its auditors, although it costs twice as much as some other handhelds. Page 52

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- 33 Y2K PREPARATION** could cause problems if everyone orders emergency supplies at once, economists warn.
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- 37 DOMAIN REGISTRIES** dispute who owns what names, which could mean competition and confusion.
- 38 WINTEL-STYLE** computing will end in the near future as IT's focus shifts, Paul A. Strassmann predicts.
- 39 SNAFUS COME** easily when you move corporate IT to the shared services model.
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- 53 COLGATE-PALMOLIVE** chooses a microwave link to back up the T1 line that links it to MCI's nationwide network.
- 53 COMMENTARY:** An application service provider installs thin-client networks by starting small, showing a quick ROI and hiding the technology from users, Robert L. Sheier writes.
- 56 FIELD REPORT:** Monitoring performance isn't just fun and games when you rely on your site for revenue.
- 55 QUICK STUDY:** Point-to-Point Tunneling Protocol is a popular and inexpensive standard for creating a VPN.
- 65 IT'S SCORCHING HOT** in the Dallas/Fort Worth area — there's a tall Texan order for IT pros to fill a wide variety of jobs, and if the drawl doesn't charm you, the salaries and compensation will.

MANY  
MANUFACTURERS  
PUT IT  
TOGETHER WITH  
CHICKEN WIRE  
AND BUBBLE GUM  
AND MAKE IT  
WORK, AS LONG  
AS THEY DON'T  
GET TOO HIGH  
OF A VOLUME.  
FOR THEM,  
SUCCESS IS A  
NIGHTMARE.

OREG GIRARD AT AMR RESEARCH INC.,  
ON COMPANIES THAT LEAP INTO  
E-COMMERCE WITH DISTRIBUTION  
NETWORKS NOT DESIGNED  
FOR CONSUMERS.  
SEE PAGE 24.



## AT DEADLINE

### 8,000 EDS Workers To Retire Early

As part of CEO Dick Brown's goal to cut \$1 billion in costs at Electronic Data Systems Corp., the company will offer early retirement incentives in mid-August to as many as 8,000 employees. Spokesman Reed Byrum said the Plano, Texas, company may also seek other workforce reductions later this year.

## Glitch Hits Many ATMs

A software glitch that occurred during a system upgrade ended up slowing or corrupting up to 100,000 automated teller machine transactions across the U.S. in late June and early July. The accounting snafu led to incorrect account balances and affected roughly 1,000 "low-volume" ATMs in supermarkets and convenience stores managed by Affiliated Computer Services Inc. in Dallas. The problem has been repaired.

## Cisco in Cable TV Flap

Four public-interest groups asked the Federal Communications Commission to regulate the cable television industry, citing the availability of technology that gives certain users unfair advantages. The groups said literature from Cisco Systems Inc. allegedly explains how cable TV operators can use the technology to get a leg up on rivals. But Cisco said its white paper explains that the technology enables all service providers "to manage the flow and content of information over the network as deemed appropriate."

## Short Takes

PEROT SYSTEMS CORP. will provide claims processing, computer upgrades, database management and e-commerce development for HARVARD PILGRIM HEALTH CARE, a New England HMO with 1.5 million subscribers. . . . The NEW YORK STATE SUPREME COURT ruled that an Antigua-based online casino is subject to state and federal laws because its Web gambling site "creates a virtual casino" within the user's computer. . . . BAAN CO. next week will announce that its supply-chain management applications will be tied together by late next month.

# Corporate Sites Slow to Use Instant Messaging

Security issues seen holding back adoption

BY DOMINIQUE DECKMYN

AS MICROSOFT Corp. and America Online Inc. slug it out over instant messaging for consumers, the battle over corporate instant messaging has yet to begin.

Lotus Development Corp. is the strongest contender here,

users will be using instant messaging," predicted David Ferris, president of San Francisco-based market research firm Ferris Research. A recent *Computerworld* survey found that 17% of U.S. corporations used some instant messaging.

Instant messaging products allow users to see which of their co-workers are currently

and ICQ products. But those products have limited appeal to corporations, because they make use of a server outside of their control.

"To me, there's a security issue here," said Howard Jones, vice president and CIO at power equipment manufacturer Snapper Inc. in McDonough, Ga. He said he doesn't allow ICQ to be used on his network.

Analysts speculated that AOL or the Sun/Netscape alliance may offer a corporate product, though none of the companies would discuss it.

According to analysts, corporate instant messaging will have to run behind a company's firewall and preferably will be integrated with traditional messaging services. That limits the prospects of several smaller players, including Tribal Voice Inc.

Lotus, which launched its Sametime real-time collaboration tool earlier this year, is the undisputed front-runner. Sametime 1.5, announced last Tuesday, allows users to move from instant messaging sessions into more elaborate data conferences with features such as application sharing, shared whiteboards and connectivity to AIM. Sametime server pricing starts at \$5,000, with client licenses priced at \$20 each. It doesn't require Lotus Domino

## Instant Messaging Front-Runners

Three vendors appear well-placed to lead the corporate marketplace:

VENDOR	PLUSES	MINUSES
Lotus Sametime	Now shipping; good security; considered an early leader	Not yet tightly integrated with Lotus Domino; relatively large client
Microsoft MSN Messenger	Lightweight client; tight integration with Platinum promised	Corporate version still a year away; fewer features than Sametime; connectivity to AOL still unresolved
AOL's ICQ	Almost 40M users; free; more features than AOL Instant Messenger	Microsoft, Lotus have no plans to connect to ICQ; security concerns
AOL's Instant Messenger	40M users; lightweight client; free	Limited features; security concerns

with Microsoft the leading challenger and the Sun Microsystems Inc./Netscape Communications Corp. alliance the dark horse, analysts said.

"In five years' time, two-thirds of corporate e-mail

online, send them a message that instantly pops up on their screen and engage in interactive, text-based chat. AOL leads the field with an estimated 40 million users each for its AOL Instant Messenger (AIM)

## Microsoft, AOL Slugging It Out

Instant messaging burst into the headlines last week as Microsoft launched its long-awaited entry into the market, starting a bout of name-calling and a technological arms race with market leader America Online.

Microsoft's MSN Messenger connects to AOL's users by logging into AOL's servers and impersonating the AOL Instant Messenger (AIM) client. Last week, AOL several times modified its server to block MSN Messenger users, with Microsoft releasing a series of updates to override the blockades.

Choosing a different approach, Lotus Development Corp. and most recently Apple Computer Inc. signed agreements with AOL that will allow them to connect to users of AOL's service. Analysts speculate that some form of royalty payment to AOL is involved.

At least one would-be competitor would consider that. "If interoperability can't be achieved by standards, we would have to consider royalties," said Richard Dym, a vice president at Tribal Voice Inc. in Scotts Valley, Calif. Tribal Voice, which is being sued by AOL over its use of the term "buddy list," said it will launch a version of its PowWow software that connects with AIM. — Dominique Deckmyn

but will integrate with it.

Microsoft launched its Microsoft Network (MSN) Messenger service for consumers late last month. The same technology and interface will become a key component of Platinum, the next major release of the company's Exchange server, which is due in the first half of next year.

Some users think the combination of Exchange and MSN Messenger is worth the wait.

"If they have [instant messaging] in Platinum, that would be nice because we already have Exchange, and I wouldn't need to run another server," Jones said.

Not everyone is convinced of the technology's benefits, though.

"I'm in the business of solving problems," said Greg Scott, IS manager at the College of Business at Oregon State University in Corvallis. "No one has come to me with a problem to which [instant messaging] is a solution." ■

## Johnson Succeeds Gillin at Computerworld Helm

Computerworld has appointed Maryfran Johnson editor in chief and vice president of content. She will be responsible for all editorial operations.

"Maryfran has the editorial leadership and business savvy to lead Computerworld into the new millennium," said Michela O'Connor Abrams, Computerworld president and CEO. "Under her strong direction, Computerworld will continue to deliver high-quality, focused content."

After working at daily newspapers for eight years, Johnson joined Computerworld in 1989 and covered Unix, IBM and Digital Equipment Corp. She



MARYFRAN JOHNSON

was the founding editor of Computerworld's Client/Server Journal and was promoted to

Computerworld news editor in 1994 and executive editor in 1996.

She will oversee the weekly newspaper, Web site, daily and weekly e-mail newsletters, conferences and other services.

"We will be providing IT leaders with an ever-wider variety of information resources," Johnson said. Some recent examples include alliances with McGraw-Hill books and CNN.

The former editor in chief, Paul Gillin, resigned to become vice president of editorial content at an Internet start-up in Dedham, Mass. ■





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# New Hope for Lower PC Costs

*Users: Tools ease management one brand at a time; multivendor sites still need help*

BY MATT HAMBLÉN

**P**C MANAGERS — feeling burned by the high cost of desktop and laptop management — last week predicted that a new batch of tools and vendor initiatives will finally help lower their expenses.

But the tools still don't go far enough in helping customers with more than one PC brand to manage all those brands centrally, some analysts and users said.

IBM today will announce the latest initiative, called PC Lifecycle Care, which covers sev-

eral of its laptop, desktop and server models.

The free policy will assure IBM's larger customers that certain workhorse models will continue to be shipped in the same configuration even during lengthy rollouts, perhaps up to a year. For example, if a corporate customer orders 1,000 IBM PC 300s, IBM promises that each one will be configured the same way, to avoid support headaches.

Also, in late June, Compaq Computer Corp. announced its Insight Manager line of free, Web-based management tools for businesses of all sizes. In-

sight Manager LC and XE allow managers to diagnose servers, laptops and desktops remotely and update system software, such as the BIOS and drivers.

"We've been looking for something to monitor PC usage from a central point instead of having to send a [technician] to look at the computer itself," said Joe Burrus, desktop coordinator at Apache Corp.

The Houston-based oil and gas exploration company recently completed a successful test of Insight Manager LC on eight desktops; Burrus said Apache is interested in testing the high-end XE version for the company's 750 users.

"For us, remote monitoring is so important because we cover 17 floors in a building,"

he said. "To remotely determine a problem on a PC saves 15 minutes of work just to walk there."

Officials at Apogee Marketing Group, a mostly IBM laptop shop in Sarasota, Fla., said the IBM workhorse initiative will keep more users on the same platform longer — which means fewer costly upgrades.

Previously, hardware updates during a rollout meant finding drivers and BIOS software to fit the new machines.

"Every time you add hardware, you change all the software — and it can drive you nuts," said Jaren Levitt, executive vice president at Apogee, a high-tech sales company.

Several major vendors, including IBM, Compaq, Hewlett-Packard Co. and Dell Com-

puter Corp., are getting serious about cutting desktop management costs and hassles. That includes providing consistency in machines during major rollouts that could last many months, said Steve Kleynhans, an analyst at Meta Group Inc. in Toronto.

But problems with multivendor PC management remain. Compaq's Insight Manager will allow limited management of other vendors' machines — through the industry standard Desktop Management Interface (DMI) — but that standard isn't yet broad enough to be compelling to large companies, Kleynhans said. For example, DMI allows a central inventory, but software upgrades aren't possible across all brands, he said. ■

## Home Depot Warns Suppliers: Avoid Selling on Internet

*But directive may not hold water*

BY STACY COLLETT

In what may be the opening salvo in a home-products channel war, The Home Depot Inc. has sent letters to its suppliers instructing them not to

sell their own products online.

The letters, which were sent by the Atlanta company beginning in May, said, "We recognize that a vendor has the right to sell through whatever distribution channels it desires. However, we, too, have the right to be selective in regard to vendors we select, and we trust that you can understand that a company may be hesitant to do business with its competitors."

The Scotts Co., a Marysville, Ohio-based maker of lawn and garden products, confirmed it had received the letter. "It sounded like a warning," said David Slaybaugh, Scotts' Website director. Although its site doesn't sell products, the company is considering all options, including selling online or linking its site to Home Depot for product sales, Slaybaugh said.

Power-tool maker Black & Decker Corp. was neither surprised nor offended by the letter. "Historically, we have not

sold direct. Our customers are the retailers. It would be foolhardy to compete" with Home Depot, said spokeswoman Barbara Lucas. Home Depot was unavailable for comment.

The Internet's effect on relationships is a hot topic among clients, according to Ed Jimenez, a retail analyst at Dataquest Worldwide Services in San Jose. Retailers are especially concerned about wholesalers that have direct-to-customer distribution capabilities that make them better prepared than retailers for e-commerce.

Jimenez said Home Depot didn't cross the line when it sent the letter, but said he doubted it will hold water.

"The category killers that dominate specific industries, like Home Depot, do have more leverage. [But] I'm not convinced in the long term that wholesalers and manufacturers are going to stay out of this market" because there's too much opportunity, he said.

"Retailers are going to need to provide value and bring their expertise online," Jimenez added.

Home Depot has announced plans to begin selling products online later this year. ■

## Out With the Old, In With the Cheap

One way of managing PC lifetime costs: Trash the old models that seem to constantly need upgrades and buy sub-\$1,000 machines with Intel Corp. Celeron processors.

Users and analysts alike said last week that a switch to Celeron PCs might actually make sense — especially with aggressive pricing such as Dell Computer's OptiPlex GX100 being announced today for \$829, including monitor.

All the major PC makers are planning or have introduced Celeron models for corporate use, analysts said.

"The cost of supporting older machines for users who are performing relatively simple tasks may exceed [the cost of] buying these new Celeron systems," said Martin Reynolds, an analyst at Dataquest in San Jose.

Roger Green, CIO at Cymer Corp. in San Diego, said he could

### JUST THE FACTS

#### Dell's OptiPlex GX100

Price: \$829, including 15-in. monitor

Features: 400-MHz Intel Celeron processor and Intel 810 chip set, 4.3G-byte hard drive in small desktop model

see replacing some machines with Celerons, given the price. "If the end users don't need the power, why not save up front?" he asked.

Cymer, which makes lasers used in producing semiconductors, has many power users who might sneer at a Celeron, Green acknowledged. But Celerons might make sense as Web-based clients if Cymer moves to a thin-client architecture, he added.

— Matt Hamblén

### Corrections

In the June 28 supplement, *Computerworld's Best Places to Work in IT*, Amgen Inc. was misspelled in a chart on page 16. Also, an article, "At Your Service" (page 8), misidentified Donald Walker's branch of military service. He's a retired Air Force general.

A June 28 Business brief (page 46), incorrectly identified the name of Hire.com's Internet-based recruiting system. It's called eRecruiter.

## Licensing Plan Goes to States

### 100 NEWS SERVICE

A group of lawyers and judges that works to unify state laws overwhelmingly approved a controversial proposal to adopt common licensing rules for software.

The Uniform Computer Information Transactions Act (UCITA) will now go to state legislatures for approval.

UCITA covers software, data and databases, the Internet and other online information. It

allows vendors to disable software remotely as a means to repossess products, stiffens shrink-wrap licensing terms, prevents license transfers without vendor approval, lets vendors disclaim product warranties and outlaws reverse engineering.

The proposal's opponents include technology consumer groups that contend UCITA would increase users' costs [News, July 26]. ■



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## BRIEFS

## Y2K Fraud Case Ends

In what the agency called its first Y2K-related fraud case, the U.S. Federal Trade Commission said it had settled with a Canadian company over charges that telemarketers made false and misleading claims about Y2K protection services. Among other charges, National Credit Card Protection Ltd. claimed to prevent Y2K-related problems by affixing stickers to credit cards, the commission said. The settlement includes a \$100,000 fine.

## Maritz Steps Down

Paul Maritz, Microsoft Corp.'s developer group vice president, is ceding most of his day-to-day responsibilities to David Vaskevitch, a vice president who serves under him. Maritz will remain with the company in an advisory role with the same title. A spokeswoman said she could not rule out an eventual early retirement by Maritz.

## Novell Invests \$15M

Novell Inc. invested \$15 million in five Internet and network software companies to speed the advancement of directory technology. The companies are Edgix Corp. in New York, Boston-based Indus River, Red Hat Software Inc. in Durham, N.C., and Food.com and W. R. Hambrecht, both in San Francisco.

## Trading After Hours

Dattek Online Brokerage Services LLC said it will offer after-hours trading from 4 to 5:15 p.m. Monday through Friday. Customers can place orders for Nasdaq stocks on the Island electronic communications network, an alternative trading system.

## Short Takes

MICROSOFT has created a certification process for third-party Windows 2000 applications. VERISIGN INC. will handle the testing using tools from RATIONAL SOFTWARE INC. . . . DELTA TECHNOLOGY INC., the wholly owned IT subsidiary of DELTA AIR LINES INC., Friday appointed Robert P. DeRodes as senior vice president, operations and technology.

# White House Plan Targets Cybercrime

*But proposed intrusion detection system has attracted opposition*

BY ANN HARRISON

CONGRESSIONAL critics and privacy activists are slamming a White House plan for a national computer intrusion detection system overseen by the FBI. Meanwhile, a Department of Defense study is calling for the formation of a virtual cyberdefense unit made up of reservists to defend the nation's military networks.

The proposed intrusion detection system would eventually link government and industry networks to scan for patterns of suspicious activity and to exchange attack data. The voluntary participation of private companies is considered essential to the success of the plan.

The plan would create the Federal Intrusion Detection Network (FIDNET) and calls for a software-based tracking system for nonmilitary government networks and separate

monitoring of companies in key industries such as energy, telecommunications and banking. The proposed system would be in place by 2003. The Department of Justice's Y2K budget request has earmarked \$2 million in funding for the initial design of FIDNET. A final version of the plan is to be released in September.

"This is something so necessary; we see cyberattacks on many of our commercial customers who do not have the sophisticated technology to detect events," said David Remnitz, president of IFsec, an information security consultancy in New York.

## Data Collection

The plan proposes that the data will be collected at the National Infrastructure Protection Center overseen by the FBI. But the report is unclear about the type of data to be collected and how it would be made available to law enforce-

ment. The outcry against FIDNET's privacy implications has already prompted a legal review of the plan by the White House and Justice Department.

The FIDNET plan has attracted opposition from legislators who charge it violates privacy. Sens. Conrad Burns (R-Mont.) and Ron Wyden (D-Ore.) issued a statement questioning the system's access to e-mail, remote log-ins and computer programs. "We need to close the holes in our net-

works through the use of strong encryption, not just monitor efforts to exploit them," the statement said.

House Republicans are questioning the ultimate cost of the plan and charge that the administration underestimates public concern about potential misuse.

"What we really need is protection from government Peeping Toms," said House Majority Leader Dick Armey (R-Texas).

Civil libertarians are alarmed by the potential for surveillance. "This is moving toward a national ID card in cyberspace, where potentially there will be no anonymity," said Georgetown University professor Mary Culnan.

## Fighting Computer Crime

Federal, state and international law enforcement organizations are taking new measures, including the following:

**THE SENATE LAST WEEK** unanimously passed the fiscal 2000 Intelligence Authorization Act, which gives federal law enforcement officials new authority to search government computers of people who have access to classified data.

**COMPANIES SUCH AS INTEL AND HEWLETT-PACKARD** are paying thousands of dollars to local police departments to help them investigate computer crimes.

**THE U.K. HAS PROPOSED A BILL** that could result in encryption users getting two years in jail for refusing to hand over encryption keys.

# Cybersquatting Bill Moves to Senate Floor

*Domain name entrepreneurs may face legal problems*

BY PATRICK THIBODEAU  
WASHINGTON

When Charles Schwab & Co. registered the domain name [www.schwab-ipos.com](http://www.schwab-ipos.com), it left a door wide open for Michael Mann.

Mann, president of RareDomains.com LLC, a Bethesda, Md., company that sells domain names, registered the domain of [www.schwabipos.com](http://www.schwabipos.com) — the same name, less the hyphen.

Mann did what some might call "cybersquatting," the practice of snapping up potentially profitable Web domains. But the U.S. Congress is looking at

## JUST THE FACTS Cybersquatting

What is it? Registering and trafficking in Internet domain names with the bad-faith intent to benefit from another's trademark.

What's the current law? Lets companies take legal action against cybersquatters, but critics say stronger measures are needed.

What's Congress doing? Bill would make this practice illegal and give companies the power to seek damages.

SOURCE: INTERNATIONAL TRADEMARK ASSOCIATION

legislation that would make some aspects of cybersquatting illegal, such as registering domain names that infringe on trademarks.

A bill that would give companies the ability to recover damages from domain name entrepreneurs was sent to the full Senate last week after pass-

ing a Senate Judiciary Committee vote. Critics called the bill too broad and warned that it may criminalize protest sites, such as [boycott-cbs.com](http://boycott-cbs.com).

Legal experts say cybersquatters track patent and trademark registrations and often register new names before a company can act. But some trademark infringements are more nefarious, such as linking trademark names to pornographic sites.

## Keeping Watch

Warner Bros. Inc. has two employees who monitor the Internet for trademark infringements and a staff of trademark attorneys who work to protect the company's many trademarks and characters, such as Bugs Bunny and the Flintstones, said Nils Victor

Montan, vice president and senior intellectual property counsel in Burbank, Calif.

Warner Bros., like other companies, files cease and desist orders against trademark violators and protects itself by registering domains defensively — covering all the potential name combinations, including hyphens.

But there are limits to what a company can do and is willing to spend, especially when international domains are added to the mix.

"It becomes a multiplication problem," Montan said.

"Companies can and should act to protect their domain names," said Dan Hubbard, a spokesman at Schwab in San Francisco. Hubbard said he doesn't know what his company will do about [www.schwabipos.com](http://www.schwabipos.com). But he said no company is "going to be able to cover every [domain name] scenario." ■

When considering e-commerce providers, consider this: In the new Internet world, the old names aren't necessarily the best to work with. Just because someone built your mainframe doesn't mean they should be providing your e-commerce solutions.

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## Recruiters Lure Temps With Free IT Training

BY SARB COLE-GOMOLSKI

While lots of large companies debate policies on paying for IT training and certification,

one temporary staffing firm has made free IT training for the masses a key part of its recruiting plan.

Manpower Inc., the Milwaukee-based employment giant, is offering free information technology training through its

Manpower Global Learning Center ([www.manpowernet.com](http://www.manpowernet.com)), a new online university for its 2 million employees. The service lets employees access material at their leisure on a variety of technical subjects

from Java programming to network administration. As part of the plan, some training and career-planning information is available to those who simply send the company a résumé.

Chris Roberts, a network administrator who works at Manpower in the Mobile, Ala., area, said he estimates that his employer will shell out \$3,000 to \$7,000 for his Microsoft Certified System Engineer training. Roberts' work schedule permits him to study a few days per week.

"This is going to make me stick with them," Roberts said.

### JUST THE FACTS

## Ways to Recruit IT Applicants

#### ■ Free training

#### ■ Automatic updates of future job postings

#### ■ Free career advice and information

Although few companies could justify the cost of implementing such a wide-scale program, the move points to the growing importance of offering technical training to lure IT workers, industry experts said.

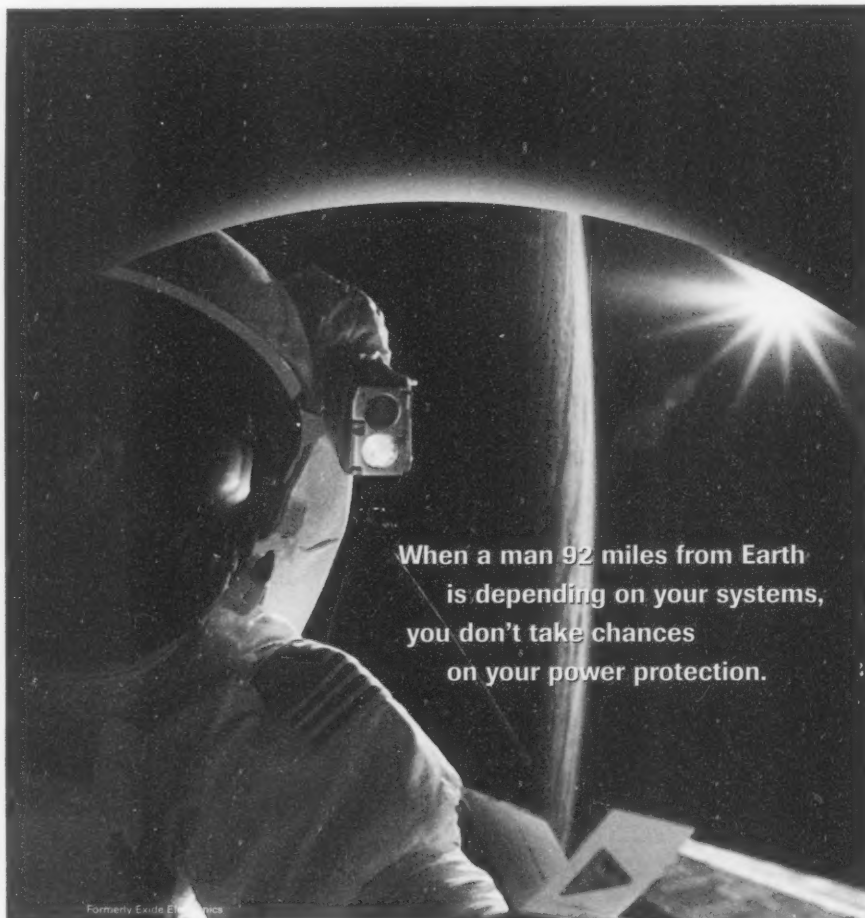
Analysts said that such measures — though perhaps not on as wide a scale as Manpower's — could become a requirement for IT departments as the number of open IT jobs continues to outpace the amount of available workers.

### Build Relationships

The idea is to attract people with free training and build long-term relationships with them. And because they manage the training, companies are immediately aware of workers' new skills.

"You can think of it as a sophisticated form of inventory control," said John Sumser, president of the Internet Business Network, an online recruiting consultancy in Mill Valley, Calif.

Still, training the masses won't pay off for all companies. "I could only see inexperienced people flocking to something like this," said Nadia Zanin, human resources coordinator at Reliant Insurance in Cleveland. Although Reliant hires such workers, the company's need isn't great enough to justify development of a training program like Manpower's, she said. ■



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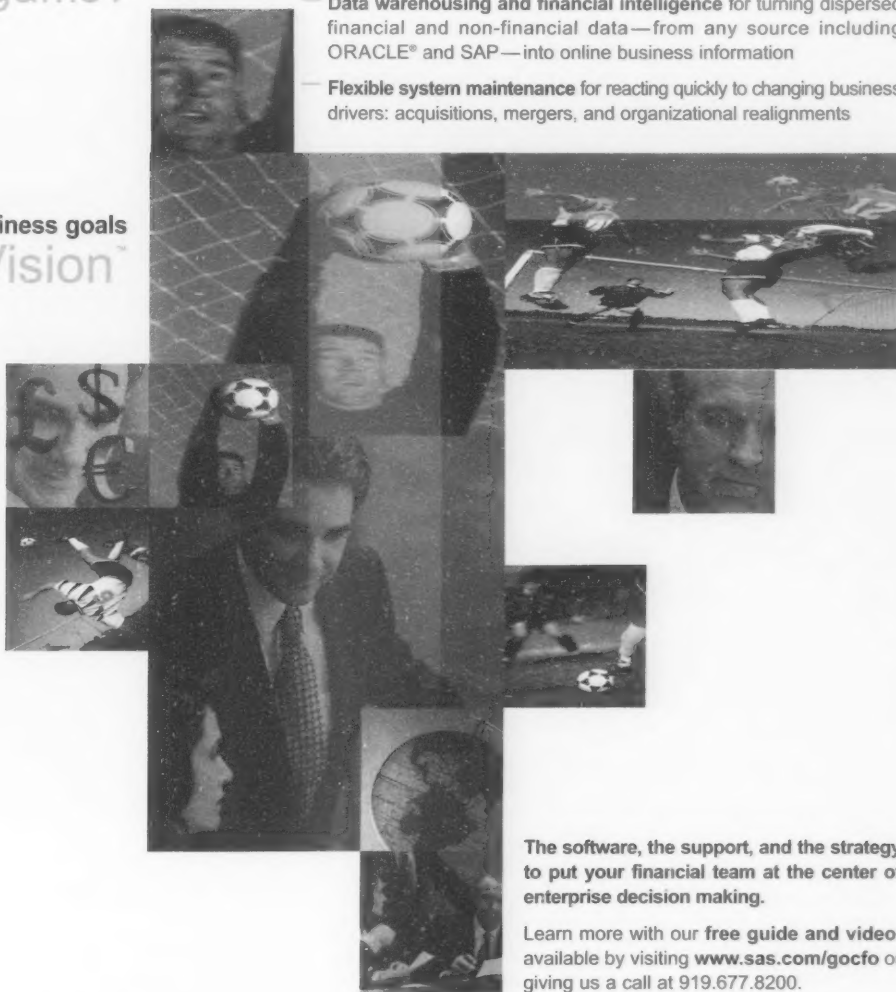


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# IBM Attacks SAN Market

Targets storage network users, EMC and StorageTek with Shark

BY SAMI LAIS

**I**BM LAST WEEK further churned the enterprise storage market waters with the announcement of its Enterprise Storage Server, code-named Shark.

The Shark disk storage system, expected next month, is fast. "In a typical open-systems environment, it runs at 12,000 operations/sec. — 50% better than the competition," said Brian Truskowski, vice president of development at IBM Storage Technology.

As the latest member in the company's Seagate line, which uses common building blocks such as RISC processors and serial disks, it's scalable.

At \$3 million for 11T bytes, it offers significant savings and features such as IBM's proprietary Parallel Access Volume for the OS/390 platform.

Parallel Access arbitrates data requests, cooling hot spots that are created when multiple applications request the same data at the same time.

However, this Shark won't soon rule the food chain. Until the end of next year, it will lack the virtual disk capabilities of

IBM's RMAC storage system. At the end of next year, IBM's agreement with Storage Technology Corp. in Louisville, Colo., to sell that company's Iceberg technology under the RMAC brand expires. Although it's unlikely the agreement will be renewed, support will continue through IBM and StorageTek.

RMAC user Jerry Lynch, director of operations at Online Computer Library Center in Dublin, Ohio, said he won't consider the Shark until it has virtual disk capabilities.

Virtual disk and StorageTek's SnapShot duplication software save four hours each night in general-ledger application processing and let him increase online data availability from 3.5T to 6T bytes without adding staff, he said.

Lynch said he has also used SnapShot to "replicate an environment for year 2000 testing."

But analysts downplay the importance of virtual disk capabilities. "The value of virtual is still not fully understood by most [users]," said John McArthur, an analyst at International Data Corp. (IDC) in Framingham, Mass.

With Shark, which IBM

promises will have native Fibre Channel by early next year, the company is targeting the burgeoning storage-area network market. A January forecast by

IDC predicts Fibre Channel-based storage system revenue will exceed \$15 billion by the year 2002.

Shark will snap up the Unix lead enjoyed by enterprise storage top dog EMC Corp. in Hopkinton, Mass., said Frank Elliott, an IBM Storage Tech-

nology marketing executive.

But that seems unlikely any time soon. "No one supports a broader range of platforms than EMC," McArthur said. But EMC storage costs as much as double that of the Shark, he added. ■

## MOREONLINE

For resources related to storage-area networks, visit our Web site.

[www.computerworld.com/more](http://www.computerworld.com/more)

## A Year Later, Priceline.com Auto Service Still in 1st Gear

Variety of challenges, problems delayed full deployment

BY BOB WALLACE

Priceline.com Inc. has found that helping consumers buy cars — a struggling initiative it began one year ago — is far more difficult than its successful name-your-price business for airline tickets and hotel rooms.

So the online pioneer last week entered into a marketing alliance with AutoNation Inc., which is the nation's largest auto retailer and already has a robust system for selling direct over the Internet.

During a pilot test, Priceline.com found that its Web site was incomplete, many dealers didn't cooperate, consumers were confused, and its business model wasn't easy to apply to big-ticket items such as cars and trucks. Priceline.com decided to delay a nationwide deployment for one year

and then allied itself with the established auto industry Web retailer.

"As we rolled out [the pilot], we recognized that this business required significantly more touch with the customer than selling airline tickets," said Priceline.com executive Scott Case in Stamford, Conn.

For example, Priceline.com's policy is to maintain the anonymity of potential buyers, which meant that it — not dealers — had to go back to consumers with offers and counteroffers.

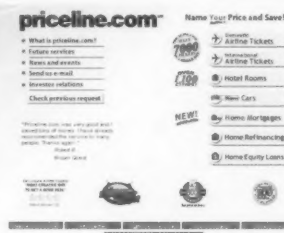
Priceline.com's consumer bidding model probably works better for selling perishable items, such as airline tickets. "If airline tickets aren't sold in time, they're worthless, whereas if an auto dealer doesn't sell a car . . . immediately, he can

wait a while and someone else will buy it," said David Cooperstein, an analyst at Forrester Research Inc. in Cambridge, Mass.

AutoNation.com, which sells vehicles on a no-haggle basis, won't sell a car to a Priceline.com user if the bid is below its set price, said Mike McFall, AutoNation's vice president of Internet marketing.

But Priceline.com is eager to link up with AutoNation's network of Net-savvy dealers.

One problem with the trial



in the New York metropolitan area was that 20% of the 1,500 dealers that got faxed bids accounted for 80% of car sales.

In last week's deal, Priceline.com will first send bids to AutoNation, and if there's no response within a certain period of time, the bids will be faxed to other dealers.

Priceline.com's initial Web site had other problems: It lacked a way to validate that the customer's vehicle configuration choices were feasible, which meant Priceline.com staffers had to double-check them.

And customers tended to bid the monthly payment they wanted to pay instead of the total price.

Priceline.com fixed those problems with a system that validates vehicle configurations and a feature for calculating monthly payments. ■

## Tivoli, CA Offerings Kick Off Annual Management Summit

BY SAMI LAIS

Tivoli Systems Inc. wants network and systems managers to rely on its revamped and expanded Decision Support best practices guides.

The Austin, Texas, management software vendor will release another in its series of about 20 Decision Support Guides at next week's annual Enterprise Management Sum-

mit conference in Santa Clara, Calif. The guides are templates for implementing different business processes such as year 2000 remediation or Lotus Notes development projects, via Tivoli's Manage-Flow workflow software.

Computer Associates International Inc. will unveil an extension of its Y2K efforts and demonstrate a new Web man-

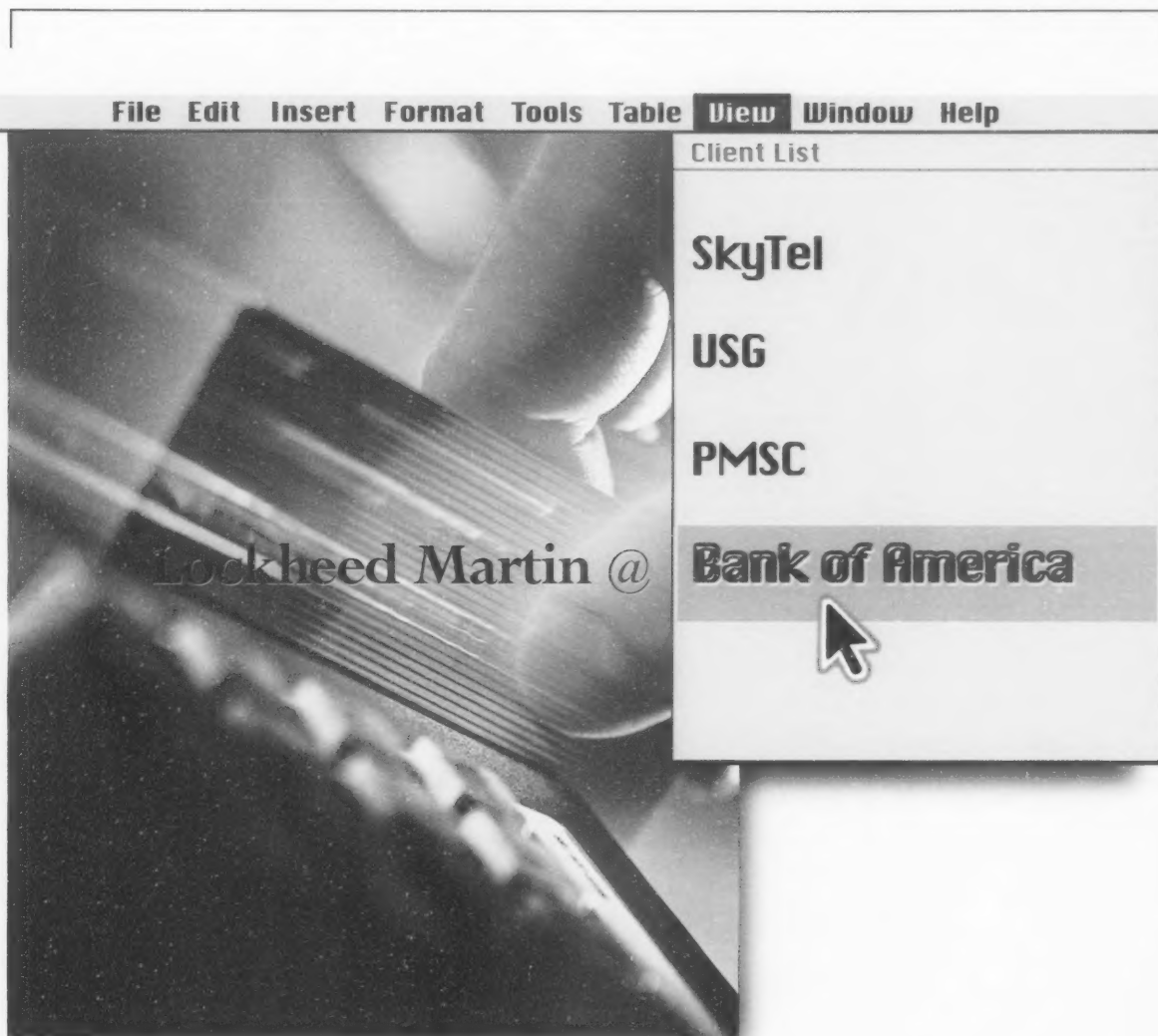
agement option for its Unicenter TNG management software. It also promised "a major announcement about database and application management" but gave no details.

Since May, the Big Four in network and systems administration — CA in Islandia, N.Y., BMC Software Inc. in Houston, Hewlett-Packard Co. and Tivoli — have promoted their

readiness "to manage the [e-commerce] space," said Will Cappelli, vice president of Giga Information Group Inc. in London.

Look for an emphasis at this year's summit on service quality for enterprise management, which lets managers quantify the network performance they deliver, predicted Patrick Dryden, an analyst at Giga. ■

**MISSION:** When Bank of America invested in new technology, they knew success required that people could use it. But how? Traditional training was too slow; hiring new employees too expensive. Lockheed Martin's solution: a business-smart process called reskilling. It uses real projects to teach new skills, guided by experienced coaches.



**SUCCESS:** Reskilling did more than train people to run computer systems; it taught people to rethink how they used those systems. The result: competitiveness sharply higher across the company, and a workforce with lower turnover. To see what Lockheed Martin IT expertise can do for you, visit [www.lockheedmartin.com](http://www.lockheedmartin.com).



## BRIEFS

DOJ Ponders  
Microsoft Breakup

The U.S. Department of Justice has contacted experts to analyze how best to break up Microsoft Corp. in the event the government prevails in its antitrust case against the software giant, a Justice Department official said today. Such a request is normal as the trial reaches its end, said spokeswoman Gina Talamona.

"We've been looking at possible remedies, but it's premature," Talamona said. "The judge hasn't even ruled on whether Microsoft is liable. But we haven't even made a decision on what kind of remedies we may or may not ask for."

Closing arguments in the trial are scheduled for September.

For Hire: Remote  
Russian Programmers

A group of Russian information technology executives paid a visit to Silicon Valley last week to market 10,000 Russian software engineers who, they said, could do some remote programming for vendors such as Sun Microsystems Inc. and Oracle Corp.

The aim, said Valentin Makarov, a representative in the delegation, is threefold: to help satisfy the IT labor demand in the U.S. while creating "income and jobs in St. Petersburg."

## Short Takes

IBM last week said it had agreed to acquire storage hardware and software company MYLEX CORP. for about \$240 million. . . . The president of BORDERS ONLINE INC., Cedric Vanzura, stepped down last week to join DELL COMPUTER CORP., according to BORDERS GROUP INC.'s public relations firm. . . . HEWLETT-PACKARD CO. has named its independent test and measurement company: AGILENT TECHNOLOGIES INC. in Palo Alto, Calif. . . . COMPAQ COMPUTER CORP. has filed suit against PC upstart EMACHINES INC. and its South Korean parent companies, charging infringement of 13 patents. . . . LOTUS DEVELOPMENT CORP. announced it will acquire Pathware, MACROMEDIA INC.'s authoring software for Web-based learning.

GE's Siren Call Lures  
E-Commerce Leaders

*Acts like a start-up  
to woo top talent*

BY THOMAS HOFFMAN

**W**HEN the headhunter first contacted Anne Dewey to talk about joining General Electric Co. as an e-commerce leader, she declined. She said she was interested only in Internet start-ups.

But the more the recruiter called Dewey, then the director of global operations at Bertelsmann Online in New York, the more she became intrigued with GE. After finally agreeing to an interview, the thirty-something Dewey met with GE CIO Gary Reiner and got an offer on the spot.

"I was impressed by how quickly they implement change for a big company. I realized that if I can be a part of this [e-commerce push], it would be huge," she added.

In January, GE Chairman and CEO Jack Welch made e-commerce the company's No. 1 priority. Since then, the company has aggressively recruited new

talent for e-commerce initiatives in its plastics, engines and other businesses.

But executives at the Fairfield, Conn.-based conglomerate are tight-lipped about the exact nature of the e-commerce projects its 11 businesses are working on. Among other things, Dewey is helping GE's plastics and medical systems units launch online globalization strategies this month.

Dewey's experience helps explain how a \$100 billion company like GE has been able to recruit more than 100 e-commerce leaders over the

past year from high-profile companies such as DHL Worldwide Express, Pepsi-Cola Inc. and Snap-On Inc. Following Welch's January mandate, the company cut through its bureaucracy and acted like a start-up to woo some of the industry's top talent (see chart).

"The people GE is going after have opportunities with 'dot-com' plays and venture capitalists, so they're pulling out all the stops with compensation and benefits and presenting themselves as one of the best equity plays in Ameri-

ca," said Paul Daversa, president and CEO of Resource Systems Group. The Stamford, Conn.-based executive recruiting firm has worked closely with GE to hire people like Dewey.

Earlier this year, GE worked with Resource Systems Group to redesign its recruiting process. In addition to making offers to some candidates on the spot, GE provides them with the names and phone numbers of other recent hires to give them an idea of what it's like for an outsider to work for the company, said Joe Ruocco, GE's manager of human resources related to information technology. "One of the questions [recruits] often have is, 'What is it like to work for a \$100 billion company?' We blew away the bureaucracy to show them that's how we operate," Ruocco said.

Bill Burnham, an e-commerce analyst at Credit Suisse First Boston Corp. in San Francisco, estimated that it probably cost GE \$200,000 to \$250,000 in annual salary to land each e-commerce consultant and practitioner.

"What really got me excited was an opportunity to do something on a very large scale, and do it for a company that was absolutely dedicated to getting it done," said Nevin Zimmermann, an e-commerce leader who was lured from Pepsi-Cola in Somers, N.Y. ■

## The Grass Is Greener

*GE has used several successful recruiting techniques in landing more than 100 e-commerce leaders from other companies:*

- Sometimes making salary offers after the first interview.
- Introducing candidates to senior business leaders during their first visit.
- Providing recruits with the names and phone numbers of other recent hires — sometimes before the first interview — to find out what it's like to work at GE.
- Promoting its financial stakes in over 20 Web companies, including ivillage.com, snap.com and autobytel.com.
- Promoting the sense of urgency and quick decision-making behind its e-commerce efforts.

Utilities Offer Service Online  
To Cope With Deregulation

BY STACY COLLETT

Potomac Electric Power Co. never had to worry about "customer relationships." It provided the gas and electricity, and customers paid. Period.

But deregulation is less than a year away in Maryland, and many of PEPCO's customers will be able to choose their electric and gas providers. So it was time to sweeten the pot with bill payment and customer service.

"You're trying to differentiate yourself, provide superior services and offer more than their old utility used to do," said Rod Larson, vice president of product development

at PEPCO in Washington.

PEPCO is one of dozens of electric and gas utilities that have recently announced Web-based services for business and residential customers. The services include bill payment, connecting and disconnecting service, answering questions and even cross-selling other products like surge-protection insurance and appliances. Industry watchers said utilities must venture into e-commerce if they want to survive.

"Once customers are online, you have an interactive relationship. This is the best path for utility companies to get into e-commerce. If they don't,

their survival prospects are much dimmer," said Karl Duffy, vice president at Killen & Associates Inc., a research firm in Palo Alto, Calif.

According to Chartwell Inc., an Atlanta-based research firm, 42% of utilities already have interactive Web sites and 17% are in the planning stages. Today, those Web sites are mostly used to post general information about services (98%) and field customer inquiries via e-mail (60%).

In addition to increasing brand recognition, observers said online customer services will cut costs. The average paper bill costs \$1.25 to send, while electronic payment costs about 40 cents, Duffy said. Every inquiry to a customer call center costs \$2 to \$10. While exact figures for power utilities are unknown, phone companies are expected to

save \$23 billion by 2005 from online customer care, assuming there's a 70% online adoption rate by both telcos and customers, Duffy said.

The problem is, customers have been slow to catch on.

Florida Power & Light Co. began its online customer care initiative in late 1997 by offering online billing. Today, just 3,500 of its 3.7 million customers pay their bills online. New subscribers, though, are picking up as "more and more people are getting on the Web," said Jack Gomm, director of customer billing.

To entice customers, Duffy said utilities will have to offer perks. Nobody has offered a discount for simply paying online, said Jonathon Shaevit, CEO of utility services company Insite Services LLC in New York. "But that will come soon," he said. ■

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Continued from page 1

## Year 2000 Means No Rest for the Weary

changed this year's vacation policies. But only 10% of those companies are restricting summer vacations, the survey found.

Pepsi-Cola General Bottlers Inc. in Rolling Meadows, Ill., is one company that's putting limits on summer get-aways. Programmers who are working on its Y2K project couldn't take off from early May to mid-June and also can't vacation from mid-August to the end of September — two peak periods for testing remediated application code.

Robert Bramski, vice president of IT at the bottling company, said the programmers also were "very strongly encouraged" to take long weekends instead of full vacations. For IT staffers who support

hardware and networking equipment, the situation is even tougher: Their Y2K-related workloads "weren't very conducive to taking vacations" at all, he said.

Lexis-Nexis didn't formally orchestrate a summer vacation schedule for its 260 Y2K team members. But it asked them to plan their vacations around the progress of the Y2K project, said Judi Copler, director of Y2K communications at the Dayton, Ohio, division of Reed Elsevier Inc.

PaineWebber Inc. has tried to minimize the number of weekends its IT staffers need to work this summer, said Scott Abbey, the company's CIO. "We're telling staff to take time off this summer."



**PAINEWEBBER'S SCOTT ABBEY** says IT staffers must be "available" during the holidays

But IT staffers will need to be available at year's end in case any Y2K-related fires have to be put out, Abbey said. "That doesn't necessarily mean they have to be in the office during the holidays, but they do need to be available."

### No Tickets

In other words, Abbey said, IT workers better not have purchased airline tickets for December or January travel. Computerworld's survey found that 97% of the companies making vacation policy changes this year will restrict vacations during December and January.

"For the month of January we're more or less saying 'no vacations,'" said Scott Lake, project manager at Smurfit-Stone Container Corp., a Clayton, Mo.-based manufacturer of paper containers and corrugated board. "We aren't anticipating any systems problems, but we're making sure we have

all our bases covered."

Journal Sentinel Inc., the publisher of the *Milwaukee Journal Sentinel*, is also keeping IT staffers working this winter and will institute a 24-hour, on-site policy for IT staff, beginning Dec. 31. "We'll take shifts and have someone here until we're confident everything is running smoothly," said James Herzfeld, the company's technical services manager.

Although 39% of the surveyed companies said no com-

pensation or rewards will be passed out for vacation restrictions, others will recognize employees' efforts by allowing extra vacation accruals, bonus money and increased overtime pay.

"You'd better consider rewarding people," warned Rene Alvarado, a technical recruiter at Tribune Co. in Chicago. "Because of the industry and [labor] marketplace, it's definitely a good idea to give them some sort of recognition, especially during crunch times." ■

## Vacation Now

Percentage of companies that made changes to IT vacation policies because of Y2K projects:

JUNE - AUGUST	
Vacations restricted	9 %
Length of permitted vacation reduced	8 %
SEPTEMBER - OCTOBER	
Vacations restricted	19 %
Length of permitted vacation reduced	14 %
NOVEMBER - DECEMBER	
Vacations restricted	97 %
Length of permitted vacation reduced	31 %

Base: Survey of 64 IT managers at companies with 500 or more employees

Continued from page 1

## Holiday Rush On for E-Retailers

Those newer to the online merchant game, like Bauer, are pounding together integrated order fulfillment and inventory management systems so their Web customers won't have to wait for confirmations and order information will flow smoothly into back-end processes.

And the time to do it is now. "From what I understand, if you're not ready to go in October, you may have missed the season," said Carol Rozwell, an analyst at Stamford, Conn.-based Gartner Group Inc.

Veteran online retailer CD-

Now Inc. said it will launch its new technology by October and complete the work by Nov. 1. It's pouring \$1 million into a huge, 2.4G bit/sec. backbone connection (to replace its three 45M bit/sec. pipes) and a higher-capacity, more fault-tolerant storage system to replace its Symbios Logic Inc. RAID arrays, said Michael Krupit, chief development officer at Fort Washington, Pa.-based CDN Now.

"Most Web sites are only using DS-1 [at 1.5M bit/sec.] or DS-3 [at 45M bit/sec.] or multi-

ple DS-1s or DS-3s — and those

are the larger Web sites," said Liza Henderson, a consultant at TeleChoice Inc. in Tulsa, Okla.

Krupit said his company also will spend \$500,000 either to add CPUs to its existing hardware or to buy as many as three Sun Microsystems Inc. E4000 boxes for its Web servers.

Online bookseller Barnesandnoble.com Inc. wants to be ready by Oct. 15 "so that we're not doing a lot of engineering work during the peak period," said CIO Gary King. His online site has two redundant systems — one in New York and the other in Virginia — running Microsoft Corp. Web, application and database servers on Hewlett-Packard Co. and Compaq Computer Corp. hardware.

King said the company builds its systems to handle 40% more capacity than typical traffic peaks and gains insight into buying patterns from other gift-buying dates such as Father's Day.

For its own gift-season push, KBkids.com LLC is installing a commercial back-end system that will integrate several functions: purchase orders, inventory management, order fulfillment,

transaction processing, product catalog, data warehouse management and customer service. The system is due to go online next month.

In the past, the Denver-based online retailing arm of KB Toys used a small commercial financial system that didn't contain hooks into its homegrown, back-end software. Orders were sent by batch to the financial system; reconciling the orders the company took and shipped against its credit-card receipts was a highly labor-intensive activity — particularly "when something didn't add up right," said project manager Mike Elder.

Observers like David Fry, whose company, Fry Multimedia Inc. in Ann Arbor, Mich., has worked on more than 25 Web sites (including the Bauer site), said that a year ago, e-commerce retailers had trou-

ble seeing the benefits of Web-to-back-end integration. "There's less confusion now, and it's almost assumed to be a fait accompli," he said.

This year, Bauer will use Edify Corp. software to screen scrape orders and key the information into its existing order-processing system. Next year, Bauer plans to use middleware.

Staffers at 1-800-Flowers.com, are completing an installation of Oracle Corp.'s business applications suite so that "our transaction processing system feeds directly into our financial system and directly into our data warehouses" rather than handing off and reentering data into the system, said Norman Dee, the Westbury, N.Y.-based company's director of planning and Web strategies. The flower retailer said it's also scaling up its hardware. ■

[We hope not to do] a lot of engineering work during the peak period.

GARY KING, CIO, BARNESANDNOBLE.COM INC.

## Ho-Ho-Hurry Up

Reasons to get your Web site ready for Christmas:

26% of 3,800 consumers surveyed plan to begin browsing for holiday gifts before October; almost half will begin before November

Thanksgiving to Christmas sales (last year) were 230% higher than in 1997

America Online members spent \$1.2B from Thanksgiving to Christmas last year; 1.25M members were first-time buyers; 98% said they would likely make another purchase online

SOURCES: LINK SHARE CORP., BIZRATE.COM, BOSTON CONSULTING GROUP, AMERICA ONLINE INC.



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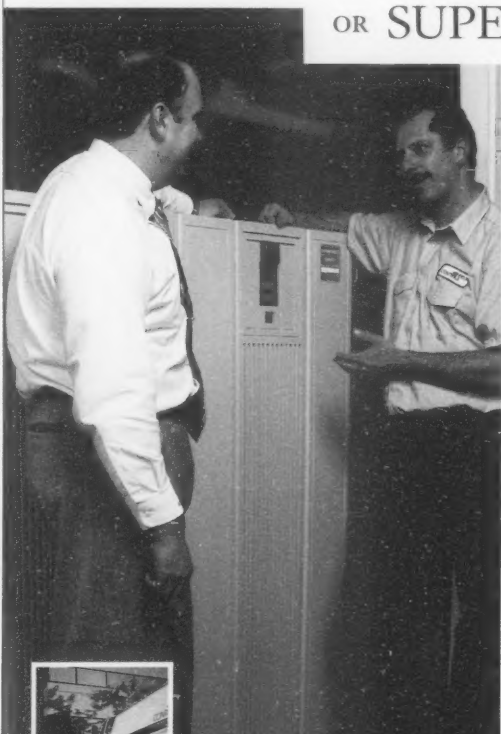


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Liebert Representative Jeff Price of CDP, Inc. (left), and Jim Vivian of Johnson Controls worked together to configure a protection system for Johnson Controls' IT network. Because of the network's size, they specified a Liebert UPStation® S3, an on-line, three-phase UPS for handling larger systems.



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*Eric Schmidt, Director of Information Services, Bricker & Eckler LLP  
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# SGI Servers Profitable As Other Systems Fade

Web server needs match SGI strengths

BY STACY COLLETT

**W**HEN Silicon Graphics Inc. began losing market share to workstation competitors two years ago, it went looking for a new identity.

Now, as the Mountain View, Calif., company reports fourth-quarter profits of \$157.8 million, the first favorable quarter

in 18 months, officials believe they've found one — that of server powerhouse. "[The server business] has been the least affected by any upturns or downturns in the company," said Jan Silverman, vice president of marketing at SGI's computer systems business unit.

During its two-year profit slide — the company reported net losses of \$460 million in fiscal 1998 and \$79 million in fiscal 1997 — SGI's server business continued to grow while its high-powered workstation and supercomputer businesses sputtered.

Although SGI doesn't break down revenue by product, it said fourth-quarter results were largely due to server sales.

Some industry watchers said SGI's server business is growing simply because its technology is coming into fashion. "SGI is good at graphics, other data sets, needing to push bandwidth through. That sounds like a lot of issues with e-business," said Joyce Becknell, an analyst at Aberdeen Group Inc. in Boston.

Most SGI servers use a Non-Uniform Memory Access architecture, which makes them much faster than other non-clustered systems. The architecture, once reserved for com-

plicated computing and data-intensive work, is finding a niche in the Web arena, where scalability, high bandwidth and low latency are key.

Harnessing the momentum of its server business, SGI will announce this week it will add a family of IA-32-based servers

for Windows NT and Linux, beginning with a four-way server available immediately.

SGI has been criticized by industry watchers for supporting too many operating platforms including Linux, Unix, Irix — SGI's 64-bit platform — and Windows NT. "They need more focus. Having multiple semiconductor platforms with multiple [operating systems] and multiple architectures is not efficient," said Philip Rueppel, an analyst at Deutsche Banc Alex. Brown in

San Francisco.

Silverman said SGI will continue to support all platforms until customers naturally begin moving toward NT and Linux "standards," a process he estimates will take a year.

For SGI to remain profitable, Becknell said it needs to continue hiring people with corporate computing experience and to "do more homework on understanding [the difference] between the commercial space and the technical space," she said. ■

## Sybase Databases Add E-Commerce Flavor

New CEO playing catch-up with rivals



SYBASE'S CHEN: Java-based database key to e-business plan

Nine months after taking over as solo CEO at database maker Sybase Inc., **John Chen** still has an uphill climb. Although profits are up for the last quarter, quarterly revenue was down (\$210 million from \$217.9 million for the same period last year), and database server market share has slipped. Meanwhile, rivals Oracle Corp., IBM, Microsoft Corp. and Informix Corp. have all unveiled new database releases. *Computerworld* senior writer Stewart Deck talked to Chen last week after the company's earnings release.

**Q: What's happening with Sybase's new database, to be released in October?**

**A: I'm making sure it's enter-**

prise-ready for e-business. My e-business database strategy is keyed to high availability and reliability, geared to Web-based and dynamic content, with features including built-in, automatic retry. The database will be written in Java, including Java's enterprise beans concept, so all data types can be represented in the database.

**Q: Could you comment on Sybase's quarterly revenue slipping.**

**A: Among my goals this year are to continue profitability and generate both earnings momentum and cash, which would allow us to grow more next year. I said this year's revenue would be mostly flat because it would take time to get sales channels fully going.**

The slip in revenue this quarter wasn't alarming because we've moved a lot of people into divisions and have done a lot of cross-training to jump-start partnerships and channels.

Also, a lot of my [big] financial services customers have been preoccupied with their year 2000 compliance testing and certification.

**Q: What are your plans for SAP and other enterprise resource planning applications?**

**A: We don't currently have a database version optimized for SAP. We're in ongoing discussions with them, but we haven't yet come together. We're partnering with PeopleSoft and Documentum right now.**

**Q: What's your strategy for mobile and embedded databases?**

**A: We are working on new wireless technology, especially mobile links that let different devices talk to each other. On the market side, we're focusing our attention on getting our products embedded into application designs and e-commerce applications.**

We added 26 new embedded application providers last quarter; our goal is to reach 100 new applications a year. ■

### Ups and Downs

**Oct. 1997:** After seeing revenue erode, SGI announces plans to "reduce operating expense levels" and eliminate 1,000 jobs worldwide.

**Jan. 1998:** Names new CEO and chairman Richard Belluzzo, a former Hewlett-Packard Co. executive

**July 1998:** Reports fiscal year net loss of \$460M, compared with \$79M loss in fiscal 1997

**May 1999:** Adds Linux to its list of platforms, including Unix, Irix and Windows NT

**July 1999:** Rolls out SGI Origin 2000, a 256-processor ccNUMA server, announces new family of Intel Corp. IA-32-based servers that will support Linux and Windows NT; reports first profitable quarter in two years

## Network Associates Regroups After Steep Loss

BY ANN HARRISON

After a two-year, \$3 billion acquisition frenzy designed to position it as a corporate vendor, one of the largest Internet security companies reported steep losses last week.

Network Associates Inc. in Santa Clara, Calif., announced that it lost \$195.8 million, or \$1.41 per share, on revenue of \$25.2 million in its second quarter ended June 30. Its revenue figures were one-tenth of what the company earned this time last year, when it posted revenue of \$249 million.

Spokeswoman Jennifer

Keavney said this was the first quarterly loss for the company after 21 consecutive quarters of growth. She said the loss was expected and part of the company's realignment after a period of explosive growth.

Phil Schacter, an analyst at The Burton Group in Midvale, Utah, said he was surprised by the steep losses and noted that companies in rapid acquisition mode often rack up research and development costs while integrating disparate technologies. But he said the size of the company's losses suggests customers are still gravitating to-

ward best-of-breed vendors of point products, rather than embracing integrated security suites such as Network Associates' Active Security strategy.

Schacter agreed that Network Associates offers well-regarded point products such as its Gauntlet firewall but questioned whether customers have embraced a cohesive policy management approach that spans different security technologies. He said the company's Active Security integrated infrastructure is still a sound strategy but that customers must be convinced of the value

of products in the early stages of implementation.

In the past two years, the company has acquired seven companies in a bid to morph from a provider of antivirus products to a vendor of corporate security suites. To offset large inventory levels clogging its distribution channels, it's absorbing amortization charges and has set aside a \$31.8 million reserve for potential payment defaults, Keavney said.

"In Q1, we realigned our numbers for the rest of the year to align our channel inventory," Keavney said. "There are no new products in the channel for Q2, so we are going to let sell-through occur." ■



# Outsider Could Collect E-Taxes

CEOs: Clearinghouse would shoulder paper burden

BY PATRICK THIBODEAU  
WASHINGTON

**A** MAJOR OBSTACLE in requiring Internet-based vendors to collect sales taxes is the pile of paperwork it would entail.

But a group of high-tech CEOs has proposed a plan that would shift tax-collection burdens away from the mer-

chants to centralized clearinghouses.

The proposal, by the Computer Systems Policy Project, is getting mixed reviews from users and analysts, who worry that such tax clearinghouses would have access to proprietary and private customer information. The clearinghouses would likely be farmed out to third parties, from Electronic Data Systems Corp.-type companies

to financial services firms.

Project members include top officials from Hewlett-Packard Co., Intel Corp., Sun Microsystems Inc. and NCR Corp., among others. The group has sent its report to the congressionally appointed committee that's reviewing the tax plan.

## Removes Vendors

The report calls for the creation of an international, transaction-based tax-compliance system that would remove vendors from collection responsibilities.

A merchant conducting a sale would work through a tax clearinghouse, which would interact with credit-card and other payment systems to handle sales-tax payments. The administrative costs would be absorbed by the tax authority, said Phil Servidea, vice president for governmental affairs at NCR.

But Charlotte Lacombe, a spokeswoman at Lands' End Inc. in Dodgeville, Wis., said such a system might

create a record of consumer purchases that would give a third party access to an individual's buying habits. "[It's] troublesome from a proprietary point of view," Lacombe said.

Robert Dupstadt, sales manager at The Caddy Co., a golf accessories manufacturer and distributor in South Lake, Texas, said such transaction systems would help — if his company had no other choice but to collect taxes.

But Dupstadt warned that his company might have to end its Web business if paying taxes involved filling out tax forms for 50 states for each purchase. "We would probably have to re-evaluate whether we really want to be doing that or not," he said.

Tax clearinghouses are unlikely to arrive soon, according to Bill Bradway, an analyst at Meriden Research Inc. in Newton, Mass. There are enough states that oppose sales taxes "that will not participate in that kind of collective taxation initiative," he said. ▀

## Angry IBM Workers May Unionize

IT workers could benefit from stability, experts say

BY STEWART DECK

Some North Carolina-based IBM workers are so fed up with a recently instituted change in pension programs that they're considering taking on the company by unionizing. Information technology workers are ripe for unionization, labor experts said. Because it could result in a more stable workforce, they said, that might not be bad news.

"Unions could bring about lower turnover rates and more company loyalty since people would be more satisfied with their jobs," said Joe Wilson, professor and director at the Brooklyn College Graduate Center for Worker Education in New York.

Not surprisingly, IBM said it isn't pleased with the prospect of a union.

"Our industry competitors are mostly nonunion, and we don't believe a union would do anything to help us be competitive," said Jana Weatherbee, an IBM spokeswoman.

John Miano, chairman of The Programmers Guild — a 300-member, Summit, N.J.-based programmers group

— said unions could help the company with recruitment and training. But there could be downsides as well, Miano said. "They could also lead to restricted functions for employees and even limit wages for some work categories," he said.

James Smith, a vice president of the North Carolina district at the Communications Workers of America (CWA), confirmed that IBM workers had contacted the CWA.

Those employees were stirred up by a change in IBM pension accounts that took effect July 1, in which IBM changed the type of national pension plan it offered. The new plan offers more monetary benefits earlier, but features a fixed growth rate for all employees except grandfathered, longtime workers.

The previous plan was slower to accrue, but potentially delivered a bigger payout at retirement. However, under the revised plan, workers who leave the company can take their pension dollars with them. "Most of our competitors don't offer a pension plan, so we decided we needed to shift some of those [pension benefits] to other benefit programs, like salary increases and stock options, so that we could keep and bring in the best talent," Weatherbee said. ▀

## SNAPSHOT

### Quarterly Earnings Roundup

COMPANY	Q2 REVENUE*		NET INCOME (LOSS)*	
	1998	1999	1998	1999
Baan Co.	\$230M	\$173M	(\$19M)	(\$9M)
Compaq Computer Corp.	\$5.8B	\$9.4B	(\$3.6B)	(\$184M)
Computer Sciences Corp.	\$1.75B	\$2.06B	\$64.3M	\$78.3M
eBay Inc.	\$19.5M	\$49.5M	\$2.7M	\$816,000
Network Associates Inc.	\$249.3M	\$25.2M	(\$38.5M)	(\$195.8M)

\* Refers to calendar second quarter

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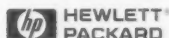
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# Shipping Firms Exploit IT To Deliver E-Commerce Goods

**E-COMMERCE:** *Fedex, UPS making big investments to create supply-chain links with Web retailers*

BY JULIA KING

**O**RDER a pound of Gevalia coffee online and workers at an Electronic Data Systems Corp. warehouse in Boulder, Colo., pack up and ship out your beans via FedEx.

Click on [www.nike.com](http://www.nike.com), opt to chat with customer service, and an operator in Dallas or Dublin answers the phone. The call center workers are employees of UPS Worldwide Logistics, but they're trained to answer specific questions about Nike Corp. products — plus capably shoot the breeze on sports topics, from Mia Hamm to the Boston Marathon.

That's what happens behind the Web screens, where out-sourcers handle the physical logistics of delivering merchandise to cybershoppers. Storing, packing, shipping and then tracking hundreds of thousands of products from Web-based retailers is a booming business for express shippers and transportation companies.

## No. 1 Growth Factor

Of 50 leading shipping companies polled earlier this year at the World Express & Mail Conference in Brussels, more than half (29) cited e-commerce as the single most important factor driving their growth.

DHL Worldwide Express, for example, is projecting 40% annual growth for its online business. And Fingerhut Business Services Inc. in Minneapolis says 70% of its fulfillment business comes from Internet companies including new customers such as the Wal-mart Stores Inc. Web site and eToys Inc.

There's big money to be made on the back end of online shopping. By 2003, the number of people who buy over the

Net will have increased nearly sixfold to 183 million, from 31 million last year, according to International Data Corp. in Framingham, Mass.

To meet the skyrocketing demand, Federal Express Corp., United Parcel Service of America Inc. and other big players are all making hefty information technology investments, focusing on two critical yet comparatively weak links in the online supply chains: real-time inventory-tracking and returns management.

"Marketeers are putting up Web sites and, in their rush for customer acquisition, they're completely forgetting the back-end fulfillment piece," said John Fontanella, an ana-



**CIO JAY WALSH:** A great deal of UPS's work is dependent on having real-time sales information

lyst at AMR Research Corp. in Boston.

And manufacturers, accustomed to shipping goods by the pallet for sale by middlemen, lack the logistical know-how and physical infrastructure that selling and individually shipping to a fast-growing mass of Web-based consumers requires.

"Many manufacturers put it together with chicken wire and bubble gum and make it work, as long as they don't get too high of a volume. For them, success is a nightmare," said Greg Girard, a supply chain analyst at AMR.

So this year, FedEx, for one, is spending the lion's share of its \$1.4 billion IT budget on

systems integration projects to support its burgeoning cyberlogistics business, said David Roussain, vice president of e-commerce in Memphis.

The projects include developing software tools and interfaces that directly link customers' ordering, manufacturing and inventory systems with FedEx's network of highly automated warehouses, call centers and worldwide shipping network. The idea is to make the handoff of all information and inventory — from the manufacturer to FedEx to the consumer — totally seamless and lightning fast.

For example, when a customer orders a printer at the Hewlett-Packard Co. Web site or over the telephone, that order actually goes to FedEx, which stocks all the products that HP sells online at a dedicated "e-distribution facility" in Memphis.

FedEx ships the order, which triggers an e-mail notification to the customer that the printer is on its way and an inventory notice to HP that the FedEx warehouse now has one fewer printer in stock.

"We call this high-velocity distribution," Roussain said. "The inventory in this type of warehouse is turned over very quickly."

FedEx has also developed systems interfaces among online companies and its express shipping operations that enable retailers like Proflowers.com in La Jolla, Calif., to operate with virtually no inventory.

Proflowers doesn't grow any flowers or operate any real-world stores. Instead, when a customer selects a bouquet seen at the Proflowers Web site, an electronic message is sent to one of several contract growers in the Proflowers network — and to FedEx.

The flower grower picks and assembles the bouquet, which FedEx picks up and delivers to

## Mail Boxes Etc. Investing \$15M in IT

It's a highly unusual move for a franchise business, but San Diego-based Mail Boxes Etc. is investing \$15 million in IT to launch 3,100 independently owned offices in the cyberlogistics market.

So far, 2,500 franchisees have signed up to use a new satellite-based communications network and integrated point-of-sale system, which will let them offer Internet shipping services to consumers and small businesses. Mail Boxes is subsidizing 50% of franchisees' point-of-sale system costs and is paying all their satellite network costs for the first year.

The company also has signed an exclusive five-year contract to furnish shipping services to Internet auction site eBay Inc., which expects to generate about 140

million shipments this year.

Another new offering: a hold-for-inspection service that lets consumers who buy items online inspect them at a local Mail Boxes office. If they accept the goods,

their credit card is billed. If not, Mail Boxes handles the return.

Mail Boxes also plans to act as the bricks-and-mortar location for Internet-only companies that need to conduct some part of their business in the real world.

"We have this high-touch/high-technology combination," said Tom Herskowitz, the company's executive vice president. The initiatives will make online shoppers "feel confident they can go to a place in their own neighborhood with any problems or issues," he said. — Julia King



**HERSKOWITZ:** Initiatives will boost consumer confidence

the consumer, keeping track of the process online, where Proflowers can monitor it.

On the returns side, FedEx is targeting online retailers with a reverse logistics process known as Net Returns, which is growing at a rate of 50% annually, thanks largely to the increase in e-commerce.

## Sending It Back

For example, Value America Inc., which operates an online store ([www.valueamerica.com](http://www.valueamerica.com)) for goods ranging from small appliances and electronics to apparel, has contracted FedEx to handle customer returns, which FedEx ships directly to the hundreds of manufacturers whose goods Value America sells online.

Value America enters return information into its own system, which is linked to FedEx. This signals a FedEx courier to pick up the unwanted item at the customer's house or business. Customers don't need to fill out shipping labels or package the item. Instead, the FedEx courier uses information transmitted over the Inter-

net to a computer in his truck to print a label from a portable printer attached to his belt.

"FedEx has control of the return, but Value America can monitor its progress the whole way through," Roussain noted.

UPS Worldwide Logistics in Charlotte, N.C., has spent the past three years assembling a supply-chain infrastructure that supports everything from reserving inventory for Web customers to letting consumers schedule the pickup of return merchandise over the Internet.

"A lot of the work we do is dependent on having real-time information about what stock is in a warehouse and what customers are ordering," which requires integrating with customers' back-end systems, said CIO Jay Walsh.

For example, with real-time sales information, UPS can configure its warehouses so its customers' hottest-selling products are located closest to the loading dock. This, in turn, speeds handling times, which is critical in the online world of instant gratification. ■



## Internet Health Care To Grow

More companies to enter market soon

BY DOMINIQUE DECKMYN

The market for Internet health care services — ranging from online health information to

medical diagnosis — has gotten off to a slow start but is about to boom, according to a new study by EOffering Corp. But the big money in the segment is in business-to-business e-commerce.

The high-profile initial public offerings of companies such

as Healtheon Corp. and DrKoop.com Inc. are only the beginning. "There's a lot more of these coming," said Caren Taylor, an analyst at EOffering, an online investment bank based in San Francisco that's partly owned by ETrade Securities Inc. Over the next year or two, between 12 and 20 companies in this market will probably go public, Taylor said.

They will include start-ups

Xcare.net in Englewood, Colo., which, like Healtheon, wants to create a virtual meeting and trading place for health care professionals. Xcare.net's technology, which is based on Extensible Markup Language, may give it an edge over competitors, Taylor said.

The study predicts the Internet health care market will double every year, reaching \$205 billion in 2003. Business-

to-business e-commerce, such as the online sales of medical equipment, will account for more than four-fifths of that sum, the study forecasts. This bodes well for players such as Chemdex Corp. in Palo Alto, Calif., whose share price almost doubled on its first day of trading last Tuesday, and SciQuest.com Inc. in Research Triangle, N.C., which sells laboratory equipment online. ■

## Ex-CIA Crypto Chief Behind New System

Government approves Constructive Key Management System

BY ANN HARRISON

A FORMER CIA official has developed a unique management system for cryptographic keys that bypasses U.S. encryption export restrictions.

Edward M. Scheidt, the former CIA chief of cryptography and founder of TecSec Inc. in Vienna, Va., developed the Constructive Key Management (CKM) system, which the U.S. government has approved for export with a key length of 392 bits. Most exportable U.S.-made encryption products are limited to 56-bit keys.

Scheidt explained that the government granted the exemption because the CKM system allows companies themselves to recover encrypted data if it's requested by law enforcement agencies.

CKM is a key system for symmetric key algorithms that use split cryptographic keys. Information about the recipient's role within an organization is matched to encrypt and decrypt data (see chart).

### Fine-Grained Access Control

TecSec President Jay Wack said CKM provides fine-grained access control to any digital object, including databases, documents, photographs or Web pages, in storage or in transit.

Unlike public-key imple-

mentations with certificate authorities to handle the keys, CKM doesn't impose increasing network burdens as the number of users increase, he said. The system is being used by the U.S. government as well as a number of defense contractors. The client-based CKM-2000 suite includes a file encryptor and plug-ins for Microsoft Corp.'s Office 97 and Exchange mail products and costs \$50 to

\$129 per seat. CKM has been approved by

the American National Standards Institute as a new cryptosystem for financial transactions, according to Wack. It can be implemented in software with user credentials stored on a workstation drive or on a removable hardware token.

### Military, Business Uses

Richard Fastring, an engineer at Synetics Inc. in Wakefield, Mass., is evaluating CKM-2000 and the CKM software development kit to develop security applications for the U.S. Navy. Fastring said he believes CKM is well-suited to exchanging information with



JAY WACK of TecSec: CKM OK'd for financial transactions

## Founder Touts CKM System

Assures users that encryption is secure

A former CIA official has developed a unique cryptographic management system that provides access control to any data object. **Edward M. Scheidt**, former head of the CIA's Cryptographic Center, founded TecSec Inc. in Vienna, Va., to commercialize the Constructive Key Management (CKM) system for symmetric key algorithms. It creates a one-time encryption key to access individual databases, documents, photographs or Web pages. The system is now in use by federal agencies and defense

contractors, said Scheidt, who recently talked to *Computerworld* reporter Ann Harrison.

**Q: Why has the CKM system been approved for export?**

**A:** We meet the requirements of the export requirements, which say that if you have 100% key recovery, you can do what we do.

The kind of key recovery that we have is defined in the regulations as "self key recovery," which means that the government or another entity does not have a copy of your key. It is not a key escrow system.

Our argument to the [U.S.] Department of Commerce and others was that they needed to define or identify cryptologic systems that were based on self key recovery as opposed to escrow key recovery.

**Q: How do you assure customers the encryption is secure?**

**A:** The design or architecture is part of an American National Standards Institute standard that has been peer-reviewed.

We can demonstrate to the customer that they are the only ones who will have access to their keys.

We don't have access to them. There is no third copy. There is no way to get into the operating system, or something like that.



CKM DEVELOPER SCHEIDT: No other entity has a copy of your key

### How Does CKM Work?

**FILE IS ENCRYPTED** with a split, one-time encryption key

**THE KEY INCLUDES** information about the identity of the creator and recipient

**WHEN THE FILE IS RECEIVED**, permission labels describing the identity of the recipient are compared to labels assigned to that person

**IF THE COMPARISON MATCHES**, cryptographic information relating to the permission labels is obtained and combined to reconstruct the key and decrypt the file

foreign military personnel in an alliance or among business partners. "You can rapidly switch between different algorithms and create new key splits that are useful for particular purposes," Fastring said. "It allows you to focus on the roles people play and encrypt information proportional to those roles."

Peter Schwietzer, a cryptanalyst at Information Security Systems Inc. in Baltimore,

notes that weak, password-based key management systems are a common flaw in commercial encryption products. He said he trusts Scheidt has the sophistication to build a more secure identity-based strategy.

Can customers be sure the product doesn't contain a back door to allow outsiders access to data? "There is no assurance out there for any product," Schwietzer said. ■

**Q: Have any independent cryptographers evaluated the product?**

**A:** We've been evaluated by some of the government agencies in the process.

As far as an independent cryptographer, we have discussed the designs but not the product itself, per se.

Our next version of our product will go through [a federal government] review, and there [will] be a third-party lab review.

**Q: Do you have any intentions of making your source code available for review if a customer requests it?**

**A:** If there is a need to do that under a [federal] review or a formal review.

I'm not too interested in having an arbitrary review of our source code; then we lose our trade secrets. ■

PAUL GILLIN

## It's been a great ride

**I**N THE END, THE HARDEST PART is summing up 15 years in 350 words.

This will be my last column as editor in chief of *Computerworld*. I've been bitten by the Internet bug and joined a start-up called Search Hi Tech.com. You've never heard of it, but I hope you soon will. Replacing me will be current executive editor

Maryfran Johnson, a 10-year veteran of *Computerworld* with a list of journalistic credentials far longer than mine. She's smart, funny, exuberant and the perfect person to carry on the tradition of editorial excellence we have always striven to uphold.

I joined *Computerworld* on Labor Day 1982 and, with the exception of a two-year hiatus, have been here ever since. In those days, multimillion-dollar mainframes ruled the IT world. Today, you can get the processing power of a circa-1982 data center for free, just by opening an Internet account. Such price deflation is unprecedented in the history of the world. Watching it all happen has been a great ride.

Yet the challenges facing *Computerworld* readers have changed remarkably little. We're still scrambling to manage technology that gallops ahead faster than anyone can keep up. At the same time, we're trying to be business strategists and to safeguard our precious data as system complexity and vulnerability multiply. It's why I believe the CIO



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has the toughest job in corporate America today. And why I have so much respect for our readers.

I have had the opportunity to work with a tremendous group of publishing professionals, to travel the world and to speak before tens of thousands of people. But the image that stands out most in my mind isn't about business at all. It's a scene from 1989, when *Computerworld* and the Smithsonian Institution introduced an awards program to honor organizations using technology to benefit society. That year the winner in the Education category was Orangeburg School District 5 from South Carolina. Orangeburg was a poor, rural district that used computer-aided learning to slash dropout rates and post the state's highest SAT scores.

The head of the school district came to receive the award and brought a group of kids all the way from South Carolina. Those students stood there beaming as the audience cheered. They were on the top of that world.

And isn't that what really counts? Making the world a better place for people. ▀

JOHN GANTZ

## Will you be an importer of Y2K problems?

**I**N KURT VONNEGUT'S book *Cat's Cradle*, the story revolves around a substance called Ice-9, a form of water that freezes at room temperature. By its nature, if it gets loose from the test tube, it will spread — to puddles, to ponds, to rivers and finally oceans, until all the water on the planet is locked up in crystalline form. It's an end-of-the-world scenario.

What got me thinking about Ice-9 is some preliminary data I've seen from a recent International Data Corp. (IDC) survey of 1,000 North American companies on their Y2K preparations. It looks pretty good. As of March, less than 4% of companies hadn't started their Y2K work, and less than 2% expected to miss the Jan. 1 deadline. About a third of the companies had already finished testing or were Y2K-compliant.

Enter Ice-9. In the Y2K world, the Ice-9 equivalent is the Y2K bug imported from outside your organization. Your company may be Y2K-compliant, but what about the companies with which you share data or applications? Over half the surveyed companies shared data with others, with companies in banking, finance, transportation, communications and health care particularly wired. Those aren't the industries we want to go down on Jan. 1.

There is actually a quantification of the likelihood of importing Y2K problems from the outside world. Called the Beach-Oleson Pain Index, after its authors, Gary Beach (publisher of *CIO* magazine and former *Computerworld* president) and Tom Oleson (IDC's Y2K expert), it relies on the number of external connections as well as the number and type of applications connected. Large companies with complex systems environments, thousands of applications and hundreds of suppliers and business partners have the highest probability of importing problems. (They're also probably spending the most to prevent Y2K problems.)

In the latest survey, the probability of the average company importing a "catastrophic" Y2K problem is less than 0.2%. And even the probability of importing a "business-critical" bug is under 5%. Most of our imported problems will simply be annoying or embarrassing.



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Those are pretty good odds. But there's one area the Beach-Oleson Pain Index doesn't address, and that's the geography of those external connections.

From all accounts, Y2K compliance around the world varies tremendously by country. In another IDC survey of 15,000 companies in 15 countries conducted in December, only 8% of respondents in developed countries expected to miss the Jan. 1 deadline with their Y2K fixes. That number was 61% in emerging countries. Clearly, if you are sharing an application or getting a critical data feed from a power plant in Russia or a mining company in Micronesia, your "pain index" may be much higher than the average.

Alas, the first survey I mentioned indicates that one of the last areas for Y2K testing is the data feeds from outside the company. Less than a third have one for testing external data feeds.

Ice-9 was fiction. Y2K problems brought in from the outside aren't. Put some time into preventing them. ■

DAVID MOSCHELLA

## Services: The sweet spot of today's economy

**R**EMEMBER how during the 1980s, economists, politicians and media pundits warned that America was becoming a "services economy"? Inevitably, that phrase was used pejoratively, with fast-food restaurants, day care centers, dry cleaners and various financial shenanigans the most frequently cited examples. The conventional wisdom was that these new servile businesses were inherently less desirable than so-called "hard" industries such as manufacturing. Indeed, the very word "services" stems from the Latin



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word for slavery, *servitus*.

How things have changed. Today, it seems that everyone wants to be in the services business. The IT industry dialogue is now saturated with buzzwords such as e-services, Web services, Internet services, application services, network services, carrier services, hosting services and other emerging opportunities, not to mention older services businesses such as consulting, programming, maintenance and training. (This ever-in-

creasing range of activity is actually way too broad for any one word, which is why so much of today's services terminology seems so confusing.)

In contrast, many "hard" industries are now in a broad retreat. Manufacturers of PCs, disk drives, modems, dynamic RAM chips and CD players are all examples of high-tech businesses that have become largely profitless exercises. Consequently, even strong PC product leaders such as Dell and Gateway are rushing to become Internet service providers, while IBM, Sun and HP advocate a systems utility model, where processing power, applications and other services are delivered on demand.

Clearly, online services have become the latest sweet spot in the IT marketplace. Consumers use the services of Yahoo, Amazon and eBay et al with little regard for the underlying IT product. At the business-to-business level, the demand for both online and human IT services is virtually unlimited, as massive resources are pulled together to build the electronic economy for the 21st century. Today, almost every company, inside or outside the IT industry, has to figure out how it fits into this new services-driven world.

Certainly, the Web has made it increasingly easy to envision what a real service economy

might look like.

We now know that there will be a nearly infinite array of consumer, business and governmental services, touching upon virtually all manner of economic and social activity. In that sense, the pundits of the 1980s were far more right than they ever could have imagined.

But in terms of the overall impact of these changes, the conventional wisdom basically had it all wrong. The doom-and-gloomers of the 1980s imagined a nation of hamburger flippers, stuck in low-skill, low-wage, dead-end jobs. It's now clear that the opposite is happening: Services are where most of today's growth, innovation and productivity gains are occurring.

These changes have forced the conventional wisdom to swing full circle, with services now seen as inherently exciting and products inherently dull. However, it's worth remembering that services can be every bit as much of a commodity as products can — consider telephone calls, airline seats and credit-card transactions.

The reality is that products and services are actually equally good businesses whose advantages happen to run in cycles. But just as products dominated the 1980s, the next decade will be services' time in the sun. Enjoy it while you can. ■

## READERS' LETTERS

### 'Stupid user tricks' aren't funny - or true

**I** ASSUME I was expected to laugh at the vignettes in "Stupid User Tricks" [Business, July 19]. Maybe there was a bit of humor, but I couldn't get past the mean tone of the article. It's an example of a disturbing trend in our headlong rush into computer-based technology: those who can sneering over the shoulders of those who can't.

It's a behavior pattern most of us can recall from elementary school playgrounds. I find it hard to differentiate this kind of high-tech arrogance from older forms of "out-group" exclusion and bigotry.

**John Kelly**  
Newport News, Va.

**"S**TUPID User Tricks" was enjoyable enough, but really, don't you think the urban legend involving the CD coffee-

cup holder has been told once too often in computer circles? I'm sure if they ever find life on Mars, even the Martians will have heard that one ... several times.

Please put this archetypal tale of end-user ineptness to rest.  
**Steven Salemi**  
The Computer Guru  
Santa Fe, N.M.  
[www.computer-guru.com](http://www.computer-guru.com)

### Cobol programmers unjustly maligned

**I** MUST DISAGREE with the comment by Stephanie Moore in the article "After Y2K" [Business, June 7] that "Retraining Cobol programmers in modern technologies isn't that easy."

I manage several Cobol programmers who are also doing excellent work in Oracle, PowerBuilder, Visual Basic, HTML, Java and Web design. I find that their experience with structured coding results in technical solu-

tions that are often more robust than those created by the less-disciplined "whiz kids" who jump from one hot technology to the next. If Moore has amassed performance statistics to back up her assertion, I'd like to hear about them. Otherwise, she's engaging in the worst sort of prejudicial stereotyping.

Furthermore, before we abandon all Cobol programmers to the fate of the mastodon, I'll remind you of a statistic recently published in your magazine: 60% of the code running in business applications nationwide is Cobol. That's more than all the other "hot technologies" combined.

**Ken Taylor**  
AIPSO  
Johnston, R.I.

### Associations story missed one group

**I**T WAS GOOD to see an article regarding IT associations ["The Value of Member-

ship," Business, June 28], but I wish it had been more comprehensive.

One of the largest national associations that should have been discussed is the National Association of Computer Consultant Businesses.

That group is the only national association devoted exclusively to representing companies that specialize in providing highly skilled professionals to clients in need of temporary technical support.

**Jeff Senger**  
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**COMPUTERWORLD** welcomes comments from its readers. Letters shouldn't exceed 200 words and should be addressed to Allan E. Alter, columns editor, *Computerworld*, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 875-8931; Internet: [letters@computerworld.com](mailto:letters@computerworld.com). Include an address and phone number for immediate verification.



MICHAEL COHN

## Y2K stories we'd really like to see

**I**F YOU READ the headlines, Y2K sounds like no big deal. We've got the whole thing covered — it won't cause any more mess than a typical rush hour. But take my advice: Read *more* than just the headlines. Read the fine print.

It's the details, not the headlines, that I worry about. It's the "buts" and "yets" that are often overlooked. Below, as a public service, I've provided a handful of the headlines you've probably been reading and the details you probably have not.

But please note that the following is purely fictional; any similarities to actual agencies

or acronyms, living or dead, are purely coincidental and the problem of my low-priced lawyer, who works out of the back of his Subaru.

■ Headline: "FAA assures that flying on New Year's Eve will cause no problems"... but *landing* may be another story.

■ Headline: "Russians boast 99.9% compliance rate of embedded chips inventoried"... it's the

ones they *haven't* inventoried that you should worry about.

■ Headline: "The IRS reports that 50% of its systems will be done by August"... another 50% by October and the final 50% by year's end.

■ "Pentagon: 100% of our in-house apps are now Y2K compliant"... we can only fix the ones where the original programmer is still "in-house."

■ "Internet providers expect to be up and running flawlessly during the millennium rollover"... just don't be surfing [www.swinging.swedish.erotica.com](http://www.swinging.swedish.erotica.com) at the stroke of midnight, or you'll download 99 years of naked ladies and your mom will find out.

■ "Sydney plans to hold 2000 Olympics no matter what"... 'cause if no one else shows up, Australia will get all the medals.

■ "Red Cross advises 'survivalist' mentality; stock up on food, water and supplies"... unless your neighbor outweighs you by 60 pounds — then you're probably in deep yogurt.

■ "Major U.S. airlines say they'll be ready on 12/31/99"... yet, they still haven't found my bags from a trip to Cleveland in '97.

■ "Prison officials will make sure the doors properly open and close at midnight"... so if something goes wrong, they can make a beeline out of there.



MICHAEL COHN is a Y2K consultant in Atlanta. He hopes that after a few more headlines, he can raise his rates. Contact him at [Mcjohn@aol.com](mailto:Mcjohn@aol.com)

■ "Nasdaq expects markets to withstand rate hikes, Asian crisis and Y2K"... however, if eBay Inc. has another big outage, all hell could break loose.

■ "Post Office assures customers: No delivery problems due to year 2000"... as long as you don't mind delivery *sometime* in the year 2000.

■ "State governments express confidence that they'll be ready for year 2000"... about eight months *after* year 2000.

■ "Feds satisfied that nuclear industry Y2K efforts will yield glowing results"... if you know what I mean.

■ "Hospitals: Doctors will use cell phones at midnight to ensure communication"... with their lawyers.

■ "New Y2K bill protects companies with fewer than 50 employees"... which might include even Microsoft, if you don't count its umpteen thousand contractors.

■ "NASA insists: satellites orbiting Earth pose no problems on 1/1/2000"... the ones that *won't* be orbiting Earth? Believe me, you don't want to know. ▀

MICHAEL CUSUMANO

## Industry leaders have special responsibilities

**O**NE OF THE HARDEST lines to draw, especially in fast-moving industries dominated by technical standards, is between competing aggressively and competing unfairly. I have in mind the cases of Microsoft and Intel.

One reason I bought stock in these companies was precisely *because* they have near-monopolies in profitable, growing businesses that will only increase in importance. Another reason was my confidence that both companies have the technological and organizational skills, the people, the leadership and the money to survive any challenge. Microsoft moved from PC programming languages to operating systems to desktop applications to enterprise software and the Internet. Intel moved from memory chips to microprocessors and whole computing systems. It deftly managed similar technical transitions as well as the threat from RISC and parallel architectures. Executives at both companies have also understood — far better than their competitors —

the dynamics of mass markets driven by technological standards and complementary products.

Both companies deserve to be industry leaders. We can also argue that having too many leaders results in incompatible standards and inconveniences for users. Standards can encourage firms to invest in complementary products (like prerecorded videotapes or software applications), raise economies of scale in production and sales and even lead to lower prices and more (not less) product variety.

But no one benefits when innovative companies like Netscape or Advanced Micro Devices disappear, lose their independence or suffer financially to the point where they can no longer compete effectively. Microsoft — and its customers — is better off because of the challenge Netscape posed. Microsoft engineers learned a whole new set of Web technologies and greatly enriched the company's product lines. Intel — and its customers — is better off because of challenges posed by companies that offered superfast RISC chips several years ago and cheap microprocessors more recently.

But where do we draw the line? Should we require Microsoft to raise prices when it adds new features and limit its ability to respond to innovations like the Internet? Should we force Intel to ignore faster, simpler and cheaper microprocessors? Of course not. There is, however, a line that governments should draw, though the line is murky because it requires constant legal clarification as well as judgment about the responsibilities of industry leadership.

It isn't illegal to obtain and maintain a monopoly in this country. It is, however, illegal to abuse a monopoly, for instance, by leveraging a dominant position in one market to move into another, overcharging customers or damaging consumers, for example, by forcing companies to accept exclusive contracts that restrain or eliminate competition.

We can't really fault a company for pushing vague laws to the limit. But the executives who run dominant companies need to understand that when you have a near-monopoly and own "the standard," the rules of competition change. Microsoft shouldn't be allowed to force companies like Compaq to not promote the Netscape browser by threatening to deny them the right to license Windows or by charging them more for Windows. And any company that requires access to technical specifications to produce complementary products such as a browser or chip sets should get what it needs — if the information is being made available to other companies.

High-tech executives must work with the government to clarify the rules of competition and information access to ensure that innovation continues inside and outside their companies. Dominant firms like Microsoft and Intel should also be extra careful to compete fairly. In fast-changing markets, they may find it useful to be paranoid as well as greedy. Success is unlikely to last forever. But when industry leaders become too paranoid and too greedy, they and their customers are likely to suffer. ▀



MICHAEL CUSUMANO, CSF, author of *Competing on Internet Time: Lessons from Netscape and Its Battle with Microsoft*, is a professor at MIT's Sloan School of Management. Contact him at [cusumano@mit.edu](mailto:cusumano@mit.edu)



# BUSINESS

## CONS GO STRAIGHT - TO IT

Prison might not be the first place you'd look to fill your open IT positions, but some companies are having success hiring former convicts who've had training in everything from CAD to the help desk. **► 42**

## PREPARING FOR Y2K PROBLEMS

So many companies are stockpiling parts and supplies to carry them over the Y2K deadline that there will be a shortage of material and an overload of delivery mechanisms, economists warn. The upshot? You should place your orders now. **► 33**

## LEARN THE E-BUSINESS

Before helping launch electronic-commerce efforts, one integrator insists that senior executives come in for training to learn how technology can drive organizational change. IT used to align with business. Now, it's the other way around. **► 32**

## IMPROVING PROJECTS

Project management is one of the perennial problems in IT. Many projects fail, and many of those that actually succeed don't live up to their full potential. A new approach to centralizing project management promises to improve the whole picture. **► 44**

## DEFENDING HACKERS

Most companies pursue internal security threats to eliminate the risk, not to prosecute the culprit, according to an attorney who defends hackers. But when charged, hackers aren't given much of a chance, she says. **► 32**

## R/3 REPACKAGED

SAP is building all of its add-on applications into its base ERP package to continue an all-in-one solution strategy. Some users like the idea, but others find it harder to price-compare add-on apps from rival companies. **► 33**

## CONSOLIDATION CONSTERNATION

It sounds like a great idea to consolidate IT, maintenance, HR and all the other services that various divisions of a company use. But it takes sharp management to not only make it happen, but also keep all parties happy. **► 39**

## GOING BY THE NUMBERS

How many IT workers and jobs are there? Really? If you're looking for statistical data on the IT workforce, here are some Web sites that offer information to help fill in the blanks on workers, skills and more. **► 46**

### MORE

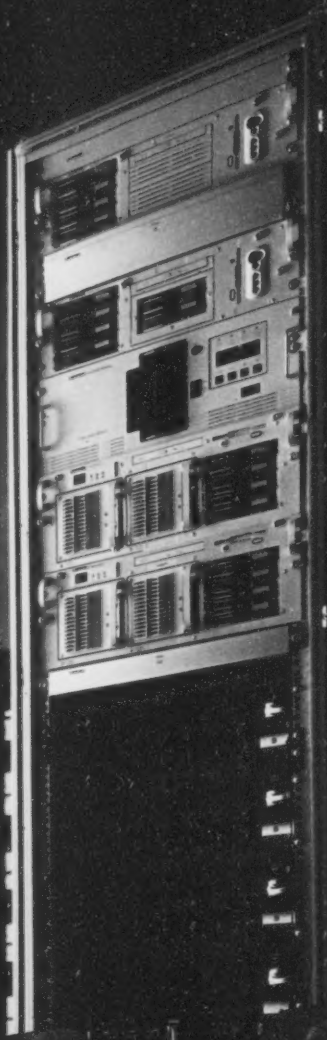
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## CHICAGO'S HOPE FOR YEAR 2000

"I THOUGHT IT WAS going to be a slam dunk," admits Beth Boatman, CIO for the city of Chicago, pictured here with one of the statues the city installed around the Loop to honor its history as a meat-processing hub. But balancing safety and transportation issues on top of the technological ones has made this big-city executive's Y2K job much tougher than most.

# 44



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Left to right: Compaq AlphaServer, Compaq ProLiant, Compaq NonStop Himalaya



**Better answers.™**



# E-Commerce Education Brings IT, Business Together in Classroom

*Integrator teaches companies that IT/business alignment is an important first step in building Internet applications*

BY BARB COLE-GOMOLSKI

**Y**OU'VE NO DOUBT heard of aligning information technology with business strategy — but what about aligning business strategists with the possibilities of IT?

When companies like Liberty Mutual Group, Chevron Corp. and Cardinal Health Inc. engaged Cambridge, Mass.-based integrator C-bridge Internet Solutions to build their e-commerce applications, they were told to first bring their top executives (along with IT people) in for an education in e-commerce.

The sessions are necessary for managers to see how technology can drive organization-

## JUST THE FACTS

### Hand in Hand

Key points made at C-bridge's e-commerce seminars:

- Implementing technology — particularly the Internet — drives organizational change
- Because technology changes so fast, business strategies must be dynamic
- Web applications don't just automate processes, they drive financial performance

al change, said Joe Bellini, president of C-bridge. Bellini said the days of building static applications to support business processes are over.

Thanks to the Internet, companies are now building flexi-

ble systems that can support — and drive — a strategic plan.

The C-bridge seminar begins with a discussion of why business strategies need to be dynamic, and then moves into how to implement adaptable technology architectures.

Later, the focus shifts to how technologies can be used to drive organizational change; finally, participants are shown how technology is linked to financial performance.

"I had some skeptical people — particularly in the marketing world," said Margaret Boudine, vice president of IT at Aviall Inc., an airplane parts distributor in Dallas that recently built an extranet that lets distributors order parts via the Web.

Boudine said that before attending the seminar, there were some people in the company "who didn't think you could do that much business-to-business stuff on the Web." After the seminar, the project team, including the former skeptics, decided to accelerate the delivery of the application.

## IT Skeptics

At Chevron, it was the IT people who were skeptical about deploying a key application on the Web, said Nancy Reyda, brand development center leader at Chevron Products Co. in San Francisco, which manages the company's convenience stores and franchises.

Marketing and IT executives attended the seminar prior to beginning a project to build a system that lets franchisees order products via the Web. "Going to the seminar coalesced everybody in one direction,"

Reyda said.

The only downside identified by participants was that the seminar does such a good job of pumping people up, expectations may be a bit too high when they set out to build the application. ■

## MOREONLINE

For more resources on e-commerce, visit our Web site.  
[www.computerworld.com/more](http://www.computerworld.com/more)

## SNAPSHOT

### Internet Demographics

The latest numbers on the who, what and where of Web users:

GENDER COMPOSITION	
Female	46%
Male	54%
ACCESSING THE NET	
At home	72M
At work	46M
At school	28M
Other (cybercafé, library)	32M

### Browsers Or Buyers?

"Browser" is defined as researching and comparing prices of products online; "buyer" is defined as performing an online transaction:

GENDER COMPOSITION			
BROWSERS		BUYERS	
Male	59%	62%	
Female	41%	38%	
TOP BROWSER CATEGORIES			
Autos/auto parts	18.2M		
Books	12.6M		
Computers	12.4M		
Clothing	11.6M		
TOP BUYER CATEGORIES			
Books	9.2M		
CDs and videos	7.2M		
Computers	5.4M		
Clothing	4.5M		

Base: Interviews with more than 7,200 Internet users

## Computer Crimes Expose Flawed Trial System

*Attorney: Victims want to avoid publicity, loss estimates hard for defendant to disprove*

San Francisco-based defense attorney **Jennifer Granick** defends people who have been charged with computer-related crimes. Most of her cases involve company employees who have been charged with improper access of corporate systems. *Computerworld* reporter Ann Harrison caught up with Granick recently to discuss the evolution of those cracker cases:

**Q:** What strategies are being used by companies to investigate or prosecute alleged computer crackers?

**A:** Many times, you'll find the private industry isn't really interested in prosecuting because they simply don't want the publicity, and they don't want people to know that their systems have been compro-

mised in any way.

They may want to leave open the possibility for the government or the FBI to step in to look at the situation as one that's criminal.

In that case, they need to make sure that they do the evidence collection in such a way that [it] can be used in court.

**Q:** How have the corporate damage assessments impacted sentencing and case law?  
**A:** For the defendant, it's almost always a flaw in the system. The estimates of damages or loss to the victim [are] directly correlated to how much time the person is going to spend in prison.

When the victim is the only one who knows what the losses are and gets to submit a loss estimate to the court, it is difficult to get evidence or information from the victim that can contradict the amount of money they are seeking to get back from the defendant.

It's a point at which the adversarial process seems to be failing. It poses a great risk to the defendant because you find that these companies are submitting these extremely high estimates of loss.

It also poses a great risk to the judicial system as a whole. There are cases which could come to trial where there are maybe serious legal issues about whether what the person did is illegal or what they actually did.



**GRANICK:** Current trial system encourages plea bargains instead of real justice

# Plan Now to Build Inventory Pre-Y2K

*Economists advise ordering soon to avoid distribution gridlock at year's end*

BY THOMAS HOFFMAN

**T**HE GOOD NEWS for companies that plan to stockpile their inventories in case of year 2000-related supply-chain disruptions: Most manufacturers are ramping up their production lines to meet the demand.

The bad news: So many companies plan to order extra parts, fuel and supplies in November and December during the already-busy holiday period that the U.S. transportation and distribution system is going to be stretched thin.

"Companies that plan to import high volumes that can't be flown in at the last minute might want to think about

pushing up their purchasing to the third quarter," said Andrew Hodge, senior vice president at WEFA Inc., an economic forecasting firm in Eddystone, Pa.

## Inventories to Rise

WEFA estimates that U.S. inventories will rise by \$83.8 billion in the fourth quarter and then flatten out at \$15.7 billion in the first quarter of next year.

Already, the backlog of orders for manufactured goods has risen "significantly" over the past four months, according to a survey of 350 purchasing managers by the National Association of Purchasing Management in Tempe, Ariz. ([www.napm.org](http://www.napm.org)).

Troy, Mich.-based automo-

bile equipment maker The Budd Co. plans to keep an extra week or two of supplies on hand. "We don't plan on keeping [extra] finished goods, but we are asking critical suppliers to keep a maximum of one week's worth of finished goods," said company CIO Harold Hoffman.

But stockpiling for just the first few weeks of January 2000 might be shortsighted, noted Lou Marcoccio, an analyst at Gartner Group Inc. in Westboro, Mass. Because Gartner Group estimates that only 10% of Y2K-related failures will occur during the first two weeks of next year, companies should re-

adjust their inventories for the period from October 1999 to September 2000, Marcoccio said.

Companies like KeySpan Energy Corp. are taking steps to ensure that there are no blips in supply or demand come Jan. 1. The New York utility persuaded the city's Metropolitan Transit Authority to nix plans to stop all of its trains shortly before midnight on New Year's Eve and then restart them all simultaneously at around 12:15 a.m.

Powering up hundreds of

trains at once could cause significant systems problems for electric utilities, said Rick Siegel, the utility's vice president of IT operations. Similarly, electric customers who turn off appliances or equipment shortly before midnight and then try to turn them all

on at once "may create the very shortages they're trying to avoid," Siegel said. ▀



**KEYSPAN ENERGY'S Rick Siegel: Surges in power demand may create shortages**

# Two-Way Text Paging Saves Time, Cell Phone Costs

*Palm-size unit benefits mortgage agents*

BY MATT HAMLEN

Why would anybody carry both a two-way text pager and a cellular telephone? K. Hovnanian Mortgage Inc. in Red Bank, N.J., has a good answer: to lower cellular phone costs dramatically.

Five months ago, the company gave employees 70 of the two-way pagers to receive and send text messages while they're visiting customers on the road. Since then, officials said, cell phone costs have declined nearly 50%. Subtracting the cost of pagers and network access, there has still been a 30% reduction in cellular costs amounting to "thousands of dollars each month," said Jim Graf, a senior vice president at Hovnanian.

"With the interactive pager, I'm able to get ahold of people almost instantly, and they respond with a short message soon afterwards," Graf said.

Hovnanian agents use the interactive paging network of BellSouth Corp. Wireless Data, in Atlanta. They use RIM's Interactive Pager 950, which — even with a small keyboard that can be used to generate e-mail — fits in the palm of the hand.

The pagers also save agents time. Rather than having to call in for the daily update on mortgage rates, agents receive a page when the list is ready. Then they can call in to have the list faxed to them wherever they are.

Hovnanian agent David Large said he would almost always prefer to speak over the phone to customers rather than trade pages, but has

benefited from getting emergency e-mail sent from clients when they want to lock in a mortgage rate, for example.

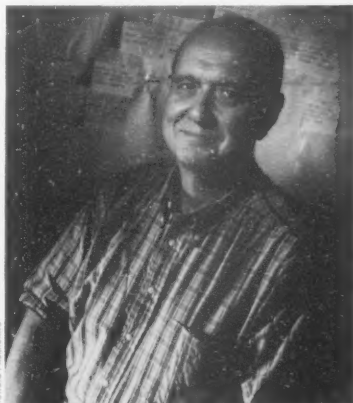
Both Large and Graf said it was hard to get used to the tiny keyboard, but said they can

now comfortably type multi-sentence messages.

Analysts said interactive paging has a future, even with the growth of cellular phones with text-message capabilities and smart phones. "Two-way

text pagers are sort of a stopgap for many users until the market can get more sophisticated with data over the cellular networks," said Bob Hafner, an analyst at Gartner Group Inc. in Stamford, Conn.

There are several two-way text pagers and networks in the U.S., and about 505,000 units are expected to be sold this year, said Matt Hoffman, an analyst at Dataquest in Stamford, Conn. By 2003, those numbers could grow to nearly 7 million units, Hoffman predicted. ▀



**K. HOVNANIAN MORTGAGE'S Jim Graf is able to contact people almost instantly using a two-way pager**

# SAP Bundle Pricing Hard To Compare

BY CRAIG STEDMAN

A new packaging and pricing scheme being cooked up by SAP AG may tighten integration of its own applications. But it could make prices of SAP's ERP add-ons harder to compare with rival products.

The plan, which SAP plans to detail next month, is a return to its old approach of offering an all-in-one product line. But now, the integrated suite will include its R/3 enterprise resource planning (ERP) applications plus newer planning, analysis and customer management packages.

SAP is combining pieces of all those applications to create 120 software bundles that are supposed to provide all the tools different workers in a company need to do their jobs [News, July 26].

That "certainly makes it harder to find the true price" of SAP's add-ons so they can be compared with products from more specialized vendors, said Robert Rubin, CIO at chemical maker Elf Atochem North America Inc. in Philadelphia.

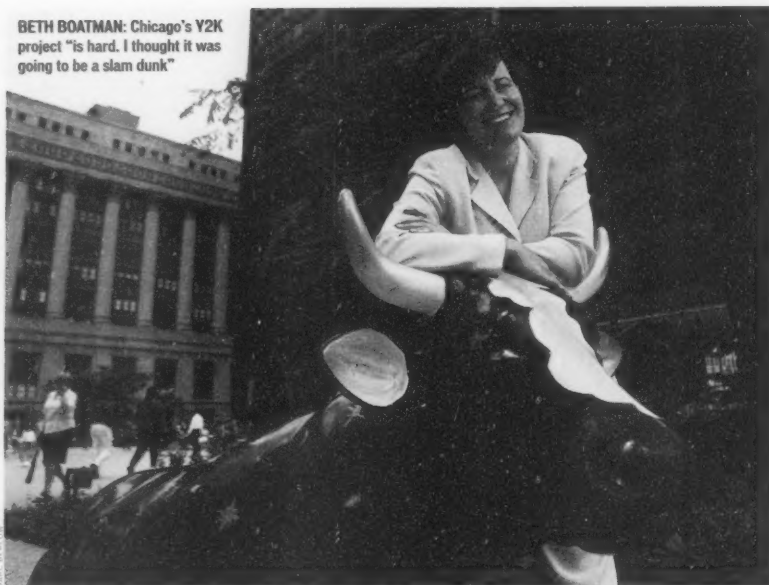
But Rubin and several other R/3 users said that's not necessarily a big drawback. The promise of integrated software was a key drawing card for SAP at first, they said, and it remains attractive as their companies look to surround R/3 with other applications.

That doesn't mean Elf Atochem will turn its back on other vendors when it evaluates add-ons, such as supply-chain planning tools, for installation next year, Rubin said.

"But one of the reasons we bought from SAP was the belief that it would be a fully functional suite," Rubin added. The big question, he said, is whether rival applications are "better enough to justify the [additional] investment."

With its new System mySAP.com strategy, SAP hopes "to convince people that the software is tied together so they can't break it up," said analyst John Hagerty at AMR Research Inc. in Boston. ▀

**BETH BOATMAN:** Chicago's Y2K project "is hard. I thought it was going to be a slam dunk"



# Chicago's Y2K Challenge

As CIO of the city of Chicago, Beth Boatman begins with the same year 2000 challenges as her corporate peers but winds up in territory — like public safety — that's terra incognita to private-sector CIOs. But the city will be ready sometime in the fourth quarter, according to a study released last month by the U.S. General Accounting Office.

Boatman recently talked with Computerworld senior editor Kathleen Melymuka about Chicago's Y2K efforts:

**What's the scope of your year 2000 project?** Fifty city administrative departments, police, fire, 911, streets and sand, a water utility, garbage, snow removal, three airports.

**How is Y2K for Chicago similar to Y2K for a corporation?** Our internal [issues] are pretty much like the private sector, except our infrastructure is older. About 2% of our systems didn't have Y2K problems. Our payroll system turned 40 this year. But from an internal standpoint, we have the same components: We're doing third-party and supply-chain analysis, we've got an IT side and an embedded project, so functionally, the way the project runs is no different.

**How is it different?** The numbers are staggering: We own 630 buildings. We've got a [vehicle] fleet of 10,000. We've got process-control equipment, utilities, airports, a police department with radios and communications devices, a 911 center that's

**WHO IS SHE?**  
Ex-IBMer and consultant Beth Boatman was advising the city of Chicago in the summer of 1996 about how to get more payback from its technology investments, when she was invited to put her ideas to work as the city's CIO. She began in November of that year.

heavily telecom-driven. In terms of the scope, it's almost scary.

And there's this public-safety issue. For example, People's Gas [has] lots of equipment that manages their distribution chain. If we weren't able to pump water in to that building, we'd evacuate the building, [but then] we don't have any heat, because they can't distribute gas if we put them out of their building.

I need to worry about making sure people can get to work — and if they can't, I have to figure out some kind of public communication method to make sure we're all on the same page. For example, I [may] need them to stagger hours because we're having trouble getting people in on the [Chicago Transit Authority].

**How do you coordinate all that?** We have a public/private infrastructure task force: utilities, Red Cross, transportation, grocery stores, hospitals, building and apartment owners. We'll do joint emergency planning and some joint press conferences. We are also populating each other's emergency teams the night of the changeover, so we'll have someone at Commonwealth Edison's site, and they'll have someone at our 911 center in the event that something breaks that is not Y2K-related.

**How are you going about risk assessment and contingency planning?** We went to the 25 biggest [departments] and ran workshops with them to determine what services they deliver, rank them on how important they are to public safety and other issues and learn what technology, facilities and third parties they use to deliver the service. We asked them how reliant they were on their supply chain and how likely [the suppliers] will make it or fail. We took that information back and prioritized which [existing] contingency plans need to be deeper.

**Can you give me an example?** As we pulled this stuff together, we noticed a lot of our departments rely on each other: Our fleet department has to have fuel to fill the cop cars and the snow plows. In some cases, our departments are relying on the same vendors. So, what if [a vendor] could give fuel to fleet but not to police? For the first time, we've had to prioritize. Those are the kinds of things we've never really analyzed in depth.

**I'm hearing that a lot of year 2000 problems are coming up already.** We had four event horizons in January that we knew were coming. It was great practice. I couldn't believe the complexity of trying to get ready for this thing and how uncertain you are. We managed to dodge the bullet.

**That sort of makes you veterans going into it.** Oh, the stuff we learned! And everything we learned has now been transferred to our new testing.

**What did you learn?** We learned how to package our applications going out [for remediation] to the vendor, how to prioritize what got done first from a vendor and communicate to them how to do it, what the break-even point was for the testing — how much do they do and how much do we do.

**What are the biggest challenges for you going forward?** It's the things we don't have a lot of control over: The apartment buildings have us nervous. It's figuring out a way to determine whether we're having a Y2K issue when it happens. Making sure we've got the unions working with us. Being able to mobilize our police department. And convincing people not to panic.

**What has been the most surprising thing about this whole project?** That it's hard. I thought it was going to be a slam dunk. The IT side is complex. This has forced us to apply methodologies, and [IT folks] don't like to do that. There are so many ways to make mistakes. And even when you think you're done, you're never quite sure that you're really done.

**Do you see any year 2000 backlash happening afterward?** Not in government. Government is the growth sector. People know how complex it is now, so they're not looking for easy fixes. And I think that this project has had a lot to do with it. ■



## App Saves Bottler, Others Delivery Time

BY STEWART DECK

Companies coping with the logistics of sending out fleets of delivery trucks have a new tool to help organize operations.

A partnership between Map-Info Corp. in Troy, N.Y., and Torrington, Conn.-based Inter-Gis LLC has resulted in a new software suite called Visual Control Room 3.0. The suite adds detailed maps and directions for drivers to the application's other features. Those features consolidate scheduling, job tracking, customer records, dispatch data, work orders and drive-time schedules. Pricing for the suite starts at \$15,000.

"Visual Control Room is a simple way to pull together a lot of data," said David Sonnen, an analyst at International Data Corp. in Framingham, Mass.

Crystal Rock Bottled Water Corp. in Watertown, Conn., delivers water, coffee and vending machines to 35,000 customers. Until recently, customer-service orders were hand-written, and service technicians spent up to two hours each day organizing orders into town and county groupings. Drivers would then map their routes, try to be on the road by 10 a.m. and average close to 10 deliveries per day.

Visual Control Room 3.0 helped the company automate the scheduling and mapping process, increasing average deliveries per driver to 15 per day.

"It has let us cut our number of vehicles on the road by about 10% and gets [drivers] on the road earlier in the day," said David Reckdenwald, operations manager at Crystal Rock. He said he also tested scheduling and routing products from Roadshow International Inc., a division of The Descartes Systems Group Inc. in Waterloo, Ontario, but found them too complex and expensive.

The hardest parts? Training and convincing staff the software was faster, he said.

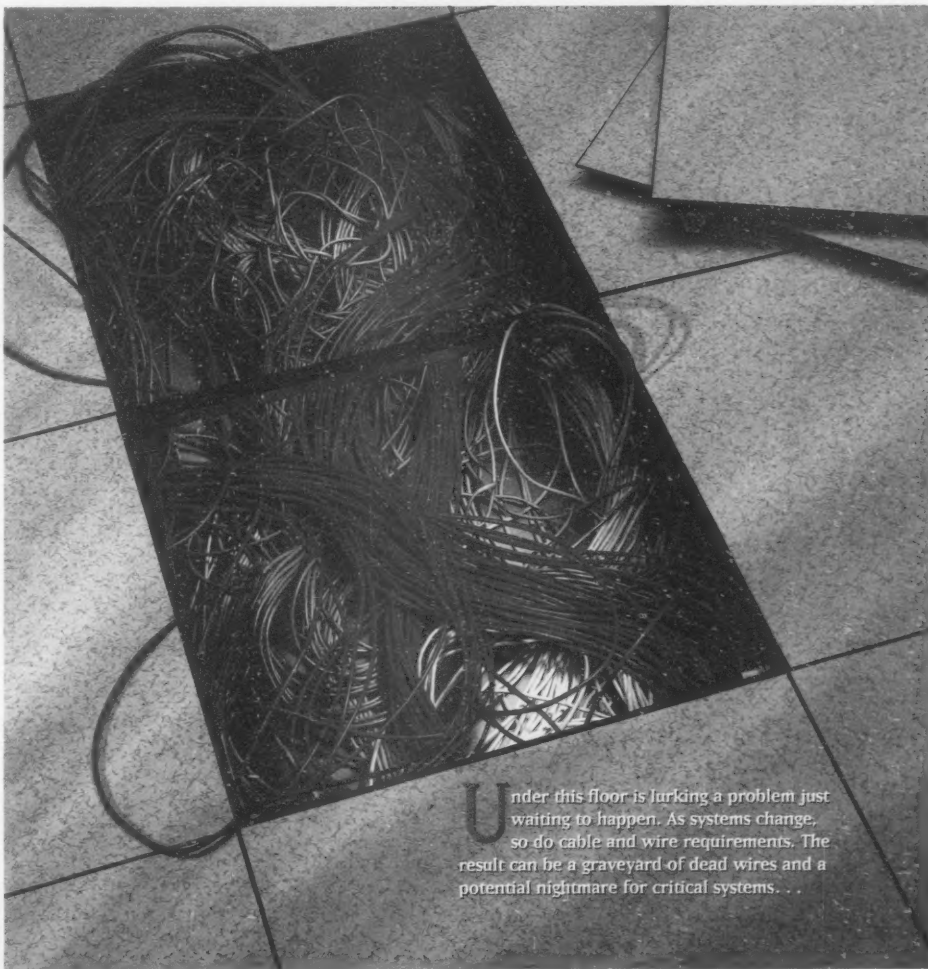
Steinway Musical Instruments Inc. in Waltham, Mass., is implementing Visual Control Room to help make its

team of 11 piano technicians across New Jersey, New York and Connecticut more efficient. "We probably hadn't much changed the way we did scheduling in 50 years," said Stephen Dove, manager of the company's retail ser-

vices department. Instead of sorting work orders and building schedules on graph paper, Steinway has begun to let the application group close appointments for technicians. Although tuning pianos can't

be rushed, Dove said the routing features will smooth the process and keep tabs on mileage records. "Since it calculates mileage, we can use it as an auditing tool for expense reports, too," he said. ■

## Cable mess.

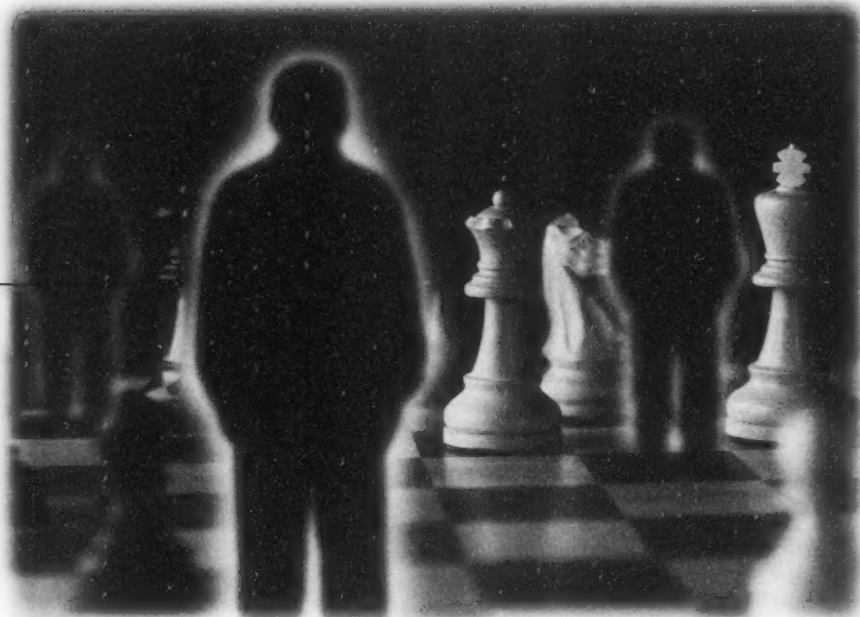


Under this floor is lurking a problem just waiting to happen. As systems change, so do cable and wire requirements. The result can be a graveyard of dead wires and a potential nightmare for critical systems...

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## Network Solutions, Government Clash

BY PATRICK THIBODEAU  
WASHINGTON

There's a doomsday scenario for the Internet that has risen out of the dispute between Network Solutions Inc. (NSI) and the U.S. Department of Commerce over control of the Internet's master registry.

This is the registry that holds information on about 5 million domain names, including those ending with the .com suffix. NSI says the registry is its intellectual property, but the government believes the database is in the public domain.

Some fear that the rift could lead to competing registries with different rules.

"The whole thing that makes the Internet work is consensus," said Harris Miller, president of the Information Technology Association of America in Arlington, Va. "If you have more than one name and numbering system, then you no longer have one Internet."

That's a worst-case scenario that some believe is unlikely, but it nonetheless gives an idea of the potential stakes.

### By the People

"I don't know what the future holds," said Bobby Chowdhury, chief technology officer at United Media Inc. in New York. But one thing Chowdhury said he wants is a management system that ensures critical Internet functions are under public control.

For businesses, the issue is important because the registry is the Internet's "yellow pages," said Carl Howe, an analyst at Forrester Research Inc. in Cambridge, Mass. If only one company owns it, "you have no competition, and no competition typically means high prices and limited distribution."

The dispute, which could last from months to years, could be resolved most likely through negotiations or legal action by the government.

In 1993, NSI won the exclusive right from the National Science Foundation to manage domain name registrations and the registry database. The

arrangement was intended to be temporary. Last year, the Commerce Department created the Internet Corporation

for Assigned Names and Numbers (ICANN) to manage the network and open it to competition. Several companies now

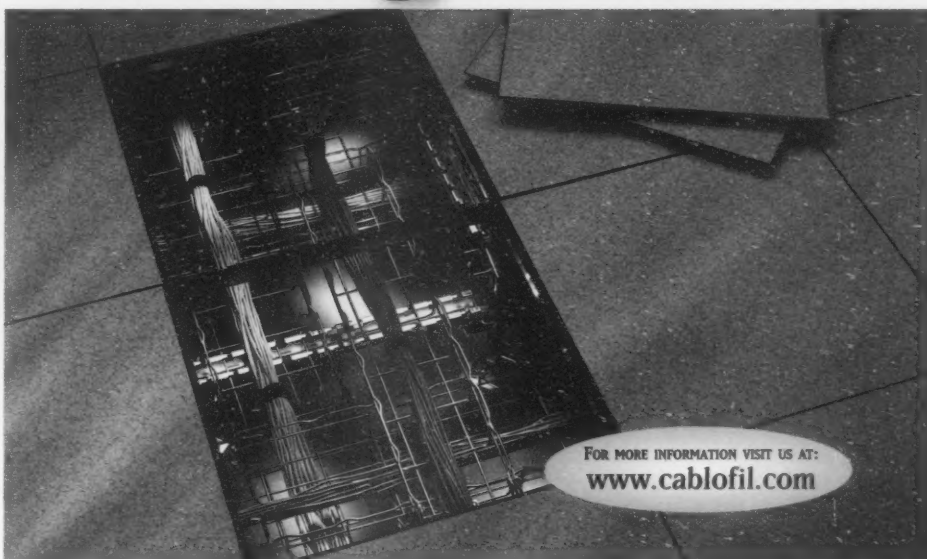
register domain names. But NSI will maintain the central registry under an agreement it has with the Commerce Department until September 2000.

In the meantime, the company is asserting ownership

of its directory of registered names and may continue to do so past the expiration date.

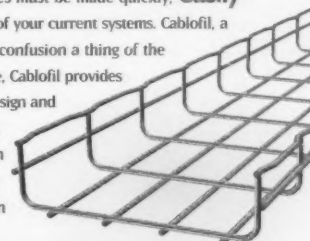
"It's part of our business, and we have a right to own our business," said NSI spokesman Brian O'Shaughnessy. ▀

# Cable management.



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## BRIEFS

## Online Software Sales to Top \$3B

The worldwide market for electronic software commerce will be worth \$3.5 billion this year and is expected to reach \$32.9 billion by 2003 as more businesses and consumers get used to shopping on the Net, according to a research series published by International Data Corp. Electronic software commerce consists of the sale of software online, regardless of the delivery method.

worldwide. NewsEdge Insight integrates and delivers information from more than 1,500 NewsEdge Review topics, news wires and complete publications.

## New CIO Named

Stuart I. Sugarman was named CIO at Mount Sinai New York University Health. Prior to joining the New York-based health care organization, Sugarman, 51, was director of information technology at Credit Suisse First Boston Corp.

## Travel Web Sites

Almost one-third of 5,300 Internet users surveyed this spring made online reservations at travel-related Web sites, according to NPD Online Research in Port Washington, N.Y. For example, 31% of Internet users made airline reservations online this year, compared with 21% in 1998, NPD reported.

## SmithKline Signs Content Provider

SmithKline Beecham has selected products from NewsEdge Corp. in Burlington, Mass., to send news to more than 1,000 employees

## Assessing Risks

Horizon Consulting Group Inc. in Medford, N.J., launched a Web site to help companies with their internal and external Y2K business risks. The free risk-assessment software can be downloaded at [www.yrisk2k.com](http://www.yrisk2k.com).

## Chem Board Gives Safety Advice

The U.S. Chemical Safety Board is urging governors to follow California's lead in assessing the Y2K readiness of hazardous materials manufacturers and handlers. The board urged governors to provide awareness and assessment tools to firms that deal in hazardous materials.

## EToys Reports

EToys Inc. ended its first public quarter in the red, reporting \$20.78 million in losses compared with \$2.17 million in losses for the first quarter of 1998, according to a statement from the company. Santa Monica, Calif.-based EToys reported \$7.98 million in sales for the first quarter of 1999, ended June 30. That was up sharply from the \$381,000 in sales for the same period last year, according to eToys, an Internet retailer of children's products.

## What to Invest In

If you had to advise a rapidly growing, small business on the three most important technology investments for efficiency and productivity, which three would you recommend?

Networked PCs and printers	85%
Networked Internet access	84%
Laptops with remote access	70%
Server management software	32%
Multifunction peripheral	24%
External print server	2%

Based on survey of 200 IT professionals at companies with 1,000 or more employees. Activities recommended require a post-1998 investment. Source: NPD.

PAUL A. STRASSMANN

## IT's upcoming shift

**W**INDOWS, UNIX, Linux, SPARC, Pentium and Merced — there's nothing technologists love more than a debate about operating systems and microprocessors. But soon, those debates will be irrelevant. We have reached the end of computer history as we know it. Fifty years of CPU- and operating-system-centric computing is ending. Large organizations are on the

threshold of an era that will be characterized by widespread diffusion of the computing function. In the next five years, the economics of computing will cause work to be dispersed to autonomous systems that will combine as needed for cooperation, without having to depend on specific operating systems and microprocessors to function at all.

According to International Data Corp., this year's worldwide spending on IT will be \$1.6 trillion. At a conservative future annual growth rate of 9%, total IT spending for the next decade will be \$30 trillion. That's simply not affordable. The demise of computing as we know it will be forced by the following:

■ In 1997, U.S. spending of \$660 billion on IT neared that of corporate wages and salaries (\$732 billion) and was rising at a faster rate.

That makes IT an attractive target for cost reduction when an economic slowdown occurs.

■ Forty-six percent (and rising) of business capital investment is in computing equipment. Now that corporate allocations to IT have been reached, growing needs for investments in energy, transportation and manufacturing must be met.

■ The "computer paradox" remains. There's no demonstrable relationship between computer spending and corporate profits. Executives can no longer tolerate that.

■ There's no technical reason why each of the 500 million corporate desktop computers estimated to be put in place in the next five years needs mainframe-like overhead such as 20 million to 60 million lines of code, gigabyte files and a managerial complexity that I estimate amounts to at least \$3,000 to \$5,000 each in excess overhead.

Despite all the talk about distributed computing and e-commerce, the reality is that the principal appliances of the computer age are the Wintel machines. Their architecture is an embodiment of centralized thinking. The operating system must be fully informed about every conceivable feature and event.

The extremely successful Wintel offerings are the result of valiant efforts to include everyone within their fold through cooperation, backward compatibility, software engineering tools, added features and options that accommodate increased variety. Although commendable, those efforts have led inevitably to a level of complexity that is manageable only at exorbitant costs.

The Wintel central control approach to computing is doomed to economic failure because it passes on to its customers huge administrative costs and enormous risks for uninsurable failures. Corporate management is searching for simple, low-cost and reliable solutions.

My bets are on these major innovations:

■ User devices without an operating system, memory, compilers, browsers and peripheral

drivers. With high-speed corporate intranets, most office workers need only a panel driven from network servers that can benefit from the economies of reduced overhead costs, increased reliability and superior security.

■ Software applets that run on "virtual machines," which make every "client" device independent of processor technology and unrelated to the choice of an operating system. Because they can function without requiring support from a specific choice of technology, such software will also have a much longer economic life than today's software, resulting in an enormous improvement in life-cycle costs.

■ Software that can communicate, interact and support business services without central control that guides their every step.

The consequences of this transformation are far-reaching. Most

of the code and all of the organizational forms based on central planning will crumble. Those who bet on the new architectures will prosper. ■

Strassmann ([paul@strassmann.com](mailto:paul@strassmann.com)) would like to see much more money available for innovations that create value instead of costly maintenance.

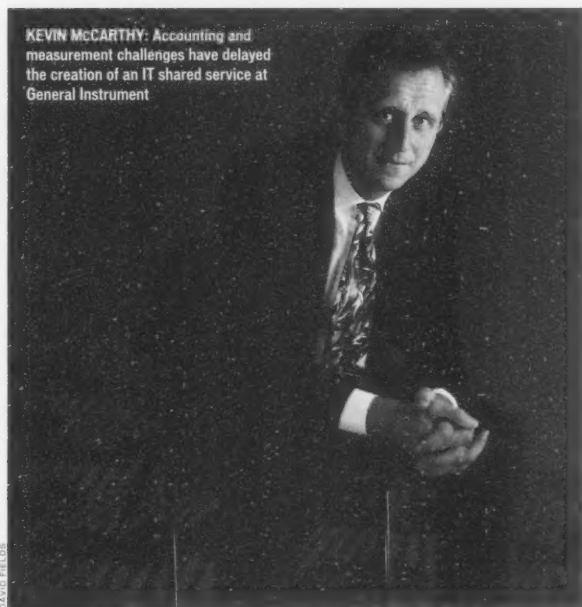
The Wintel approach is doomed to failure.



# The Snares Of Shared Services

Retooling IT as an internal 'vendor' to deliver better service works for many — but it's easy to hit snafus along the way By Erik Sherman

**KEVIN MCCARTHY:** Accounting and measurement challenges have delayed the creation of an IT shared service at General Instrument



DAVID FIELDS

**U**SAA in San Antonio needed to work smarter. The six independent divisions of the \$7.7 billion financial services firm often duplicated overhead, like accounting and customer processing. So USAA decided to rein in its costs by creating a shared service.

Under shared services, a company centralizes back-office functions, such as accounting, warehousing and even information technology, and treats them as internal vendors. The rest of the company can use outside service providers instead, so competitive pressures promote responsive service, and

reduced staffing saves money.

According to an April study by Deloitte Consulting, the approach has proved successful. Of 53 major corporations that had implemented shared services, none reported negative experiences with the final result.

USAA sought those benefits by creating a new shared services group called the Financial Service Center. The company decided to move all of its divisions to a new general-ledger application while downsizing and organizing the new group. It was a big mistake.

Each division used different processes and software, so the IT department effectively did six system ports simultaneously. The added complication of a greatly reduced accounting staff almost drove dedicated teams from the financial service center and IT to the point of burnout. For months, undertrained employees were lost using the new system.

"We didn't realize it would be that tough on us," recalls Ronald W. Holtkamp, a senior financial officer at the center. The IT department had never implemented mission-critical projects during large-scale organizational changes, so it couldn't envision all the problems, he said.

After a few months, operations smoothed, and the Financial Service Center has since been a hit in efficiency and economy. But as USAA learned, shared services promise benefits in the end, yet can bring problems at the outset. The question is how long those problems will last.

## Troubled Transition

For Compass Aerospace Corp. in Long Beach, Calif., some problems have lasted almost two years. Formed in 1997, Compass is the merged result of 10 previously independent aerospace companies. Compass created an IT shared service but had no CIO, so upper management has controlled IT with the advice of consultants and experienced in-house personnel. The lack of a dedicated manager has cost Compass time in implementing crucial new systems.

Since its inception, Compass considered a single enterprise resource planning (ERP) system for all its locations critical. Software could coordinate related manufacturing at different plants, a key to the company's strategic direction. But with no sales growth, the \$2 million price tag — plus \$500,000 to integrate it with the company intranet — has been daunting. "We didn't really have an expectation of what these costs would involve," says a resigned Adam Berkson, business planning manager.

According to Chris Riedy, the company's vice president for administration, Compass has missed the presence of an "advocate," as well as someone with experience in vendor negotiations, who could drive down the price

tag. The company is now seeking a CIO.

An opposite mistake is to rely totally on technical management. Because departments are free to seek help elsewhere, shared services without customer skills could literally find themselves out of business. Employees must understand the services being provided, as well as marketing and customer service. According to Philip Ross, senior manager at the Detroit office of Deloitte Consulting, someone must carefully match people with job requirements or risk losing employees.

## Best Practices

To avoid a corporate bloodletting, organizations like Tenneco Business Services, the 3-year-old shared services arm of Tenneco Inc., implement high-level best practices. The \$7 billion automotive and packaging company uses service agreements with departmental customers. The group has also sharpened its customer service and negotiation skills.

"Now we're selling to the business units," says Vicky Pafk, executive director of payroll and technology services. "You have to understand who the influencers are and who makes the decisions, and you need to enroll both."

To be the preferred supplier — and even to have a secure corporate existence — the shared service has to cost-effectively deliver superior results. Because shared services charge their customers for work performed, they also need good accounting and performance measurement. "It comes back to selling your services," Pafk adds.

General Instrument Corp., a Horsham, Pa., maker of products for the cable TV industry, has a newly centralized IT department. But it says it put off creating a shared service because of accounting and measurement considerations.

"We have the leverage we gained from centralizing the services, but at the same time, we don't want to get into detailed chargeback methodologies," explains Kevin McCarthy, the company's vice president of IT.

The IT department's work has been focused on installing an ERP system throughout the company, so it hasn't needed chargeback mechanisms. But McCarthy expects that to change as departments ask for customized applications and ERP modifications. The company is "layering on additional functionality, so now we may have to ask people to share the cost more formally," he says.

Bookkeeping is important, but the real benefits to a shared service are delivering services well and cost-effectively, Pafk says. The disadvantages? "You have to do all that," she muses. ▀

Sherman is a freelance writer in Marshfield, Mass. Contact him at [esherman@reporters.net](mailto:esherman@reporters.net).

## Point of View

### Clustering time: Just when is it?

By Dan Kusnetzky  
International Data Corp.

We hear a lot about how clustering servers improve scalability, availability and overall performance. This software provides a virtual environment, one in which important services survive the loss of a peripheral device or a computer system.

But clustering is not the answer to every issue of performance, scalability and reliability that users of Windows NT Server face today and that users of Windows 2000 Server will face in the near future.

Clustering is typically used to support the functions of data availability, application availability, performance, scalability and single management domain creation. This use of clustering "virtualizes" the storage of a group of systems. Files, databases and even entire storage volumes remain available even when the original host becomes unavailable. Such clustering is often used in client-centric architectures.

Clustering for **application availability** virtualizes one or more applications. With this type of clustering, which is built on clustering for data availability, even if your Microsoft Exchange server became unavailable, your e-mail services would continue to function.

In **clustering for performance**, the point is to improve the computational performance of an application. The application is designed to run separate processes in parallel on separate systems. An example of this is media content creation.

*continued at right*

**COMPAQ**

Better answers

# Windows NT

## ROI analysis for migrations to Windows

In the latest issue of the Web-only magazine, **Windows NT Advantage**, Shari Jones, a consultant for Deloitte Consulting/DRT Systems, advises companies considering migrating to Windows NT 4.0 or Windows 2000 to perform a return on investment (ROI) analysis to ensure that they make the most cost-effective migration decisions.

No matter whether your organization decides to move to Windows NT Workstation 4.0 now or wait for Windows 2000 Professional, Jones recommends performing a quick ROI analysis. An ROI analysis measures the return on an IT investment. The return can be either extra revenue generated, cost savings or both.

ROI can be expressed mathematically as the ratio return/investment. An ROI over 1.0 indi-

cates that the investment will save your organization more money than you're spending. An ROI under 1.0 could indicate potential savings of \$1 million, but it will cost you \$1.5 million to do so.

ROI can be expressed as a percentage by multiplying by 100 the figure you get when dividing return by investment. If an ROI is 1.5, multiplying that by 100 equals 150%, meaning your organization realized a 50% return for its investment.

Calculating the expected ROI for implementing new technologies can be arduous and time-consuming. That's why on July 20th, **Windows NT Advantage** will post an interactive calculator to help subscribers estimate the ROI for a Windows NT migration. If you haven't yet done so, you can subscribe for free by going to

## For a friendlier e-commerce Website,

Next-generation Websites will have to help companies create a personal interaction with the customer, as though the customer had walked into a store and talked to one of their salespeople face to face. So writes Steven Gould, a consultant for Deloitte Consulting/DRT Systems in Dallas, in his Enterprise Wise column in the latest issue of the Web magazine **Windows NT Advantage**.

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# Advantage

## Point of View

### Before doing the math, do the footwork

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Vinca Standby Server	6.1%
Veritas FirstWatch	2.9%
FullTime Octopus	2.2%
FullTime HA	1.9%
1776	1.6%
Tandem NonStop	0.3%
Stratus RADIO Cluster	0.2%

Source: IDC Windows Adoption Study, Feb. 1999

Produced by: **COMPUTERWORLD**  
ENTERPRISE BUSINESS SOLUTIONS

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Dan Kusnetzky is the program director for IDC's Operating Environments Service.

**Microsoft**

## Point of View

### Clustering time: Just when is it?

By Dan Kusnetzky  
International Data Corp.

We hear a lot about how clustering servers improve scalability, availability and overall performance. This software provides a virtual environment, one in which important services survive the loss of a peripheral device or a computer system.

But clustering is not the answer to every issue of performance, scalability and reliability that users of Windows NT Server face today and that users of Windows 2000 Server will face in the near future.

Clustering is typically used to support the functions of data availability, application availability, performance, scalability and single management domain creation. This use of clustering "virtualizes" the storage of a group of systems. Files, databases and even entire storage volumes remain available even when the original host becomes unavailable. Such clustering is often used in client-centric architectures.

Clustering for **application availability** virtualizes one or more applications. With this type of clustering, which is built on clustering for data availability, even if your Microsoft Exchange server became unavailable, your e-mail services would continue to function.

In **clustering for performance**, the point is to improve the computational performance of an application. The application is designed to run separate processes in parallel on separate systems. An example of this is media content creation.

*continued at right*

**COMPAQ**

Better answers

# Windows NT

## ROI analysis for migrations to Windows

In the latest issue of the Web-only magazine, *Windows NT Advantage*, Shari Jones, a consultant for Deloitte Consulting/DRT Systems, advises companies considering migrating to Windows NT 4.0 or Windows 2000 to perform a return on investment (ROI) analysis to ensure that they make the most cost-effective migration decisions.

No matter whether your organization decides to move to Windows NT Workstation 4.0 now or wait for Windows 2000 Professional, Jones recommends performing a quick ROI analysis. An ROI analysis measures the return on an IT investment. The return can be either extra revenue generated, cost savings or both.

ROI can be expressed mathematically as the ratio return/investment. An ROI over 1.0 indi-

cates that the investment will save your organization more money than you're spending. An ROI under 1.0 could indicate potential savings of \$1 million, but it will cost you \$1.5 million to do so.

ROI can be expressed as a percentage by multiplying by 100 the figure you get when dividing return by investment. If an ROI is 1.5, multiplying that by 100 equals 150%, meaning your organization realized a 50% return for its investment.

Calculating the expected ROI for implementing new technologies can be arduous and time-consuming. That's why on July 20th, *Windows NT Advantage* will post an interactive calculator to help subscribers estimate the ROI for a Windows NT migration. If you haven't yet done so, you can subscribe for free by going to

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**Microsoft®**



# FROM THE BIG HOUSE TO THE GLASS HOUSE

By Thomas Hoffman

**E**ddie McDole isn't your typical information technology professional. A 44-year-old high school dropout, McDole's résumé includes stints cleaning construction sites and working as a plumber's helper.

He also did 22 months at the Liberty Correctional Facility in Bristol, Fla., convicted of selling drugs. But since his release, thanks to five months of training and 18 months of work he received from a private company while behind bars, McDole has held a job for 10 months as a computer-aided draftsman at Geonex Corp. in St. Petersburg, Fla.

McDole now digitizes paper drawings of gas pipelines and other utility systems for about \$9 per hour at Geonex. Before receiving computer-aided design (CAD) training from St. Petersburg-based Pride Enterprises during his incarceration, McDole "had never even turned on a computer," he says. "But I wanted something to help me turn my life around."

Pride Enterprises is a St. Petersburg not-for-profit company that trains 5,000 inmates each year in IT and other skills and uses those people as employees to support service contracts with private companies.

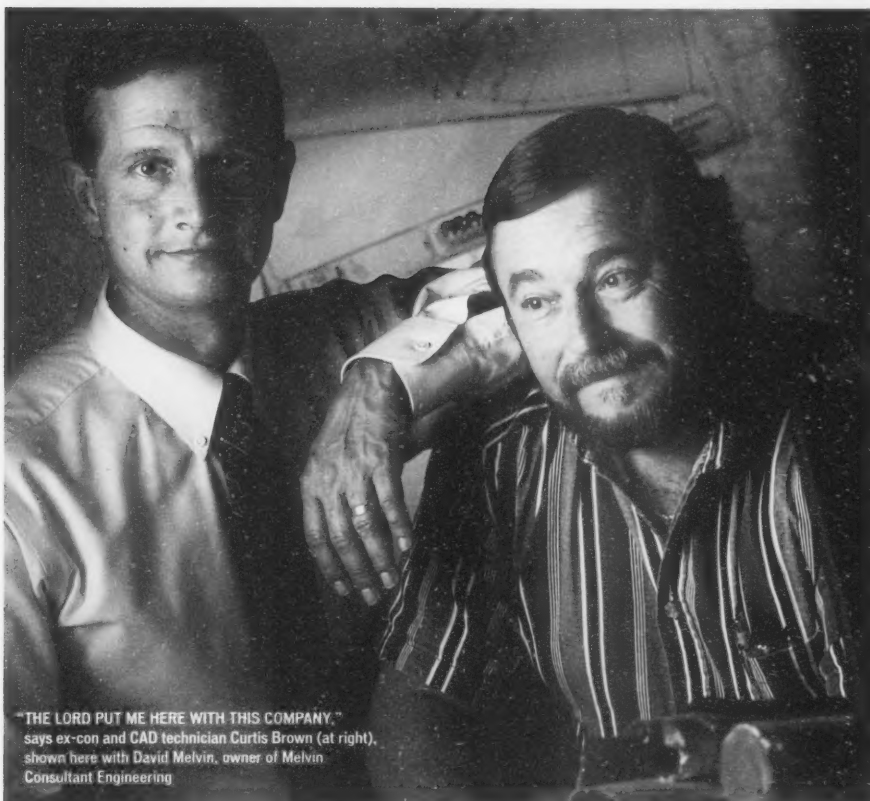
"This sure has been a good opportunity for our family. My wife has seen a world of difference in me," says McDole, a father of two.

With the U.S. IT skills shortage showing no signs of abating, companies are searching all over to find technologists with the right stuff. Dovetailing with that, prisons are offering training in everything from CAD programming to PC help desk skills in an effort to reverse a 62% national recidivism rate of ex-cons who wind up back behind bars.

For example, roughly 85% of the offenders who have gone through the Lifeskills training program jointly coor-

minated by the Colorado Department of Corrections' Education Division and the Community College of Denver still held jobs after 90 days, says Chuck Beall, director of vocational education for the state agency in Colorado Springs. Those estimates include people who have been trained not just in computer fields but also for administrative and blue-collar jobs.

In Georgia, the 15 offenders who have gone through a similar training program offered by Gwinnett County Corrections found work after being released, says Terry Culbreath, who is the coordinator of that county's computer-



based training program.

Unlike some IT professionals who are job-hopping for higher salaries, bonuses and other perks, criminal offenders appear willing to remain loyal in return for a second chance in society.

"I feel the Lord put me here with this company," says Curtis Brown, a Pride graduate from the Appalachia Correctional Institute in Sneads, Fla., who became a CAD technician 18 months ago at Melvin Consultant Engineering in Marianna, Fla. "Most folks [at Melvin] want to help. It's almost like a family."

How did Brown get into CAD? "It wasn't so much an interest. It was either sit around the [prison] compound and do nothing or apply for a job with skills," says Brown, 49. He worked for Pride for more than eight years during his incarceration at Appalachia.

Many nonoffenders who have worked at Geonex, a data conversion and geographic information systems developer, "are interested in learning just enough to do their jobs and then finish," says Ken Mellem, executive vice president at Geonex. In contrast,

people like McDole, who learned their craft behind bars, "want to get into and understand the technology more since they have a lot of time on their hands" and a desire to succeed, Mellem adds.

Ex-cons also see IT skills as a way of making it on the outside. "I realized as I got older that I couldn't be doing hard

labor [outside of prison] all the time," Wendell Pride says. Pride, 32, spent more than four years at Buena Vista (Colo.) Correctional Facility for burglary and criminal trespassing before earning a certificate as a PC help desk specialist from the Community College of Denver. He's currently repairing

## Social Challenges for Ex-Cons in New Roles

In most cases, employers seem to be less concerned about an ex-offender's criminal past and more concerned about how the ex-offender will handle the social transition from prison to the workplace.

Gary Hersey, a Pride Enterprises graduate who landed a job as an engineering manager at RH Design Inc. nine months ago, "fits in very well with everyone. He's extremely skilled, and I can't find that type of person in Jacksonville," says Michael Richardson, secretary/treasurer at the commercial cabinet maker.

RH Design advertised for an engineering

manager in local newspapers and colleges, but to no avail. In the end, an executive at Pride spotted the ad and helped arrange an interview with Hersey, Richardson says.

"Our reaction was, 'Sure - what's done is done, water under the bridge as far as we're concerned,'" Richardson says.

However, several CIOs on Wall Street, who requested anonymity, say their firms would never be able to hire an information technology professional with a criminal history because the industry is so highly regulated and strict about employees' backgrounds.

And if someone had been arrested for selling or possessing drugs, "they probably won't find work in a pharmacy," says Gary Counterman, an employment specialist at the Community College of Denver. — Thomas Hoffman

computers at PC Land, a retailer in Denver, and he's planning to return to school for an associate's degree.

Geonex first went to Pride Enterprises two years ago to subcontract some of the engineering work it won in a deal with British Telecommunications PLC. Mellem said he considered subcontracting the work to an offshore programming factory in India or Malaysia but decided to stick with Pride "since it was a lot easier than going offshore, and the price was competitive."

Most of the Pride graduates released from prison seem to have adjusted well to life on the outside. Gary Hersey, who started working at RH Design Inc. in Jacksonville, Fla., three weeks after being released from Sumter Correctional Institute in Bushnell, Fla., is trying to organize a stamp collection when he's not bowling or swimming. Hersey earns \$12.50 per hour at RH Design. He received seven years' training in the use of Autodesk Inc.'s AutoCAD program from Pride while behind bars.

"I see a lot of career growth with this company," says Hersey, 36, who typically works 45 to 50 hours per week.

For ex-cons who have no prior training, it's more of a learning curve once they're released. "Most people are not prepared to learn when they come to us," says Tim Dempsey, executive director of Chattanooga Endeavors, a training program for ex-offenders in Tennessee that opened in April.

That's because many offenders who can't read or write are unwilling to admit their shortcomings while incarcerated. It "makes them look weak" and can be held against them by guards and other inmates, Dempsey says.

But training programs such as those Pride offers have been able to identify people with the logic skills and aptitude required to become a programmer or technician, even if they have limited language or math skills.

Most of the CAD draftsmen that David Melvin, owner of Melvin Consultant Engineering, has used through Pride "had much superior [technical] skills than the vocational schools are turning out," he says. He says he believes that's because Pride technologists work on actual projects while they're imprisoned, compared with vocational school graduates who worked off textbook drawings and "lack the skills to put the total project together."

Brown just finished a course for a contract-estimating system given by the Florida Department of Transportation and has worked on large highway engineering projects, such as Interstate 10, which runs from Florida to California.

The work, Brown says, is "rather intense, very diversified and quite enjoyable." Just the kinds of things loyal IT employees are telling their bosses around the country. ■

# Project

## A ROUTE TO

**Creating a special office to manage a large company's project resources could be a great way to boost project management and performance. Now, if the office can only get everyone to sign on . . .** By Kathleen Melymuka

**P**ROJECT managers have been the heroes — and scapegoats — of information technology for too long. Kevin Bertram says that's why he established an IT project office. "It's all about

process improvement," says Bertram, chief of systems development at Oakland County, Mich.'s Department of Information Technology. "We don't always want to depend on a hero. We want a process and system that can work on its own. We're trying to position the organization to be successful."

Until recently, most companies slapped projects together — and it showed. The position of project manager wasn't even widely recognized until this decade, and many companies considered an on-time, on-budget project an oxymoron.

But with more companies adopting a project approach to all kinds of operations, many are trying to build project-management cultures. The project office is emerging as the framework to develop that culture and improve results, thereby cutting costs.

A recent study of 30 companies by Forrester Research Inc. in Cambridge, Mass., found that more than half had IT project offices. The offices' mission: to bring order out of

the chaos of project management.

That's a big job.

"The problems are not around managing a project anymore," says Ron Shevlin, the Forrester analyst who conducted the study. Instead, he says, they're about multiple projects, cross-functional projects, global projects, overlapping projects, interdependent projects, project resource allocation, politics, sponsorship and culture.

Project offices give support and take data. They provide standard tools and methodologies, as well as coaching. They collect information by means of project-management tool kits that give a current view of the companywide IT project portfolio, including staff deployment.

In time, the office can provide a historical view of project estimates vs. performance, enabling management to see where projections part with reality. Although the approaches vary, some staffs see their project offices as centers of excellence for project management.

Theoretically, a project office forces the business to face the reality of limits on staff, time and budget, and requires it to prioritize projects. It gives project managers the documentation they need to demand adequate staffing, funding and reasonable deadlines. The result: More resources are brought to bear on strategic projects, such as better planning, coordination and execution, and more projects are brought in on time and on budget.

But in reality, success requires a drastic change in project culture.

### View From the Top

The IT project office at Royal Bank Financial Group in Toronto is sponsored by the CIO,



who's also a vice chairman at the bank. At the heart of the 21-person staff are nine project management consultants, who were drawn from the bank's pool of veteran project managers.

"Those folks have got some of their own blood on the tracks," says Les Bell, Royal Bank's project office manager. Their job is to roam the bank's projects, coach project managers one-on-one as they work and staff a "walk-in center" that project managers can go to for guidance, he says.

Other project office staffers work on project manager education and development, help project managers with planning and metrics and develop

custom add-ons to the bank's core project management tool, Results Management Software from ABT Corp. in New York.

Royal Bank's plan was for the coaching staff to sign on for a 15- to 18-month rotation, then return to the project management stream to seed the new culture. All are overdue to leave, and other project managers have been lined up to take over. "We can't seem to push them out the door," Bell says. "They get exposed to so many different projects. They love it."

While some project offices concentrate on enforcing standards, Royal Bank relies mostly on friendly persuasion and common sense to change the culture. "A common response



# Office

## BETTER PERFORMANCE

[Project managers] get exposed to so many different projects. They love it.

LES BELL,  
PROJECT OFFICE MANAGER,  
ROYAL BANK FINANCIAL GROUP

is, "I don't have time for all that. I have to get out there and do something," Bell says.

When faced with that response, a coach sits with the project manager for a couple of hours to show the tools in action. "When they see a real project plan come out the other end, they realize it was time well-invested," Bell says. "We're very, very careful that we're not seen as police. That becomes counterproductive very quickly."

### Grassroots Struggle

Project offices without top-level sponsorship tend to have a longer and harder path to acceptance. At Siemens Building Technologies in Buffalo

Grove, Ill., John Braun started the process about four years ago when, as a senior project manager, he got tired of a project environment he describes as "really pathetic."

"Nothing was getting done. We had 400 to 500 projects and were using [Microsoft Corp.'s] Excel to try to guesstimate on staff months and money needs. That's all. We didn't even have a project name and number system," he recalls.

It took Braun a year of proselytizing about the benefits of project standards and metrics to get authority to purchase a project management suite from Business Engine Software Corp. in San Francisco. That helped get things rolling. "The tool helped us realize we were always overcommitted," he says.

It then took more than a year to get a two-person staff and a home for the project office in the enterprise resource planning department, of which Braun is now IT manager.

But there have been some successes — including the establishment and enforcement of project priorities. Each business unit must list and prioritize its projects; Braun then runs the lists against available resources. "If there are 10 projects in a department and they can only do eight, we draw a line," he says. "Anything above gets supported, and anything below doesn't. There's no power struggle."

Without a high-level sponsor, Braun often finds himself in the role of enforcer. "When you induce change, they get uncomfortable," he says. "One guy threatened to sue me for harassment because I wanted to know what he was working on. I've been called everything

in the book, and I don't get a lot of thanks."

Nor a lot of help. In Braun's system, line managers are supposed to report monthly on the project work their people have been doing, but those reports aren't coming. "So now I have to say, 'If you expect the data to be good, then you follow the rules.' Now I'm the cop," he says.

Braun is determined, but it's a slow process. "I really wish I would've got more senior management sponsorship up front," he says. "You need that."

### An Easier Way

Executive sponsorship can nip sabotage in the bud. At Oakland County's IT department, which provides services to 80 divisions, 60 government units and 50 private-sector customers, executives' early use of project office tools forced project managers to get on board.

Oakland County executives consulted the resource management tools to assign people whom they thought weren't already attached to projects. Managers then had to acknowledge that many of those people were busy with under-the-table work for customers who had asked them to "sneak it in" — a practice the project office was trying to stop.

"We told them, 'If you don't protect your resources by putting them in the system, you lose them,'" says Joe Maletta, the county's manager of application development. "That's what it takes."

Asked to demonstrate their impact quantitatively, project office staff members tend to be caught in a catch-22: Because they didn't measure their success before, there's no way of showing how much better

things are now.

But are the county's new projects on time and on budget? Officials point out that the project offices are still too new, the methodologies are still being disseminated and the culture is still being nurtured.

Bertram's office is 3 years old, though, and he acknowledges that his projects are still mostly late and over budget. But the good news is that "I believe that's related to our estimating practices, and now we have a benchmark" to measure improvement, he says.

### Here to Stay or Gone Tomorrow?

Everyone agrees that the project office is a work-in-progress that will probably look different tomorrow. "I don't think we'll see it go away in our lifetime because what we need out of it keeps expanding," Bertram says. "Now we have project management, but what about issues management, scope management, quality improvement and benchmarking? [The] project office will have to develop standards for that."

But Cindy Hoffer, assistant vice president at the project office at Lutheran Brotherhood, a financial services organization in Minneapolis, says she sees the project office as a temporary means to an end.

"We're planning to leverage the coaching throughout the company," she says. "So if we really do our job well, in five years, we might not exist." ■

### MOREONLINE

For another view on the project office, see an interview with Edward Mahler, director at the Project Administration Institute in Larchmont, N.Y., at our Web site, [www.computerworld.com/more](http://www.computerworld.com/more)

## Many Benefits Flow From Idea

While many nascent project office cultures are still working toward their ultimate goals, their staffs insist that there are other benefits:

- The project office points out recurring minefields in project processes, such as cost-estimating problems at Oakland County in Michigan.
- It forces and enforces priorities. "When people say, 'You've been my buddy for years. Can't you slip this in?' Now they can't," says John Mahoney, Oakland County's director of IT.
- It coordinates cross-functional projects. "Virtually every project we do is cross-divisional," says Cindy Hoffer at the Lutheran Brotherhood in Minneapolis.

"In the past, we had control of [our] own resources and time and approach to a project, but we can't have 10 people with their own approaches," she says.

- It shows the real value of projects by comparing anticipated costs and benefits with actual results.
- It helps in coordinating massive efforts. "We went through 25 concurrent Y2K projects," Mahoney says. "All the plans looked alike; all did the same activities. We looked at resource utilization across the entire shop so we couldn't over-commit."
- It enables IT to back up staffing requests and track software development costs for capitalization.

— Kathleen Melnyuka

## COOL CAREER SITES

# Workforce Resources

*Confused by conflicting projections of IT labor shortages and skills gaps? The following Web sites may help you get a better handle on the IT workforce profile*

BY LESLIE GOFF

FINDING reliable demographic data about the information technology workforce is no easy task. From astronomical claims that the IT labor shortage is so severe the industry may never recover to news suggesting the market will be flooded with programmers once the millennium bug is just a historical footnote, it's hard to nail down an accurate picture of where IT stands.

The truth's probably out there — but not in any single source. Used together, the following sites will either leave you thirsty for more or offer at least enough statistical data to let you draw your own conclusions:

most jobs and those that are declining.

The biggest drawback here is that much of the data is from 1996, the most recent year for which government statistics are available.

## The IT Workforce Data Project

[www.uefoundation.org/itworkfp.html](http://www.uefoundation.org/itworkfp.html)

This site boils down the IT workforce into three areas: IT workers and positions held, the number of students pursuing technology-related degrees and the percentage of foreign workers. The three reports — "Core Occupations of the U.S. Information Technology Workforce," "The

Production of U.S. Degrees in Information Technology Disciplines" and "Foreign Origin Persons in the U.S. Information Technology Workforce" — rely on existing government statistics but combine

them with other sources for a uniquely current view.

Still, don't expect to find specific numbers. The reports are based largely on government data, and IT occupations are grouped into broad categories: computer scientists, engineers, systems analysts and programmers.

## Bureau of Labor Statistics

[stats.bls.gov](http://stats.bls.gov)

The U.S. Department of Labor's Bureau of Labor Statistics maintains a wealth of workforce statistics; it's almost impossible not to get lost in its sea of data — especially if you're looking for information

on a specific occupation.

But be advised that 1996 is the most recent year for much of the data.

If you want to know how many openings there are for computer programmers, database administrators or systems analysts or the current unemployment rate, check out the key pages for IT hiring managers:

**Occupational Outlook Handbook, 1998-99**

[stats.bls.gov/oco/ocos110.htm](http://stats.bls.gov/oco/ocos110.htm)

(for programmers)

[stats.bls.gov/oco/ocos042.htm](http://stats.bls.gov/oco/ocos042.htm)

(for computer scientists, engineers and systems analysts)

Both pages provide a description of the job and its day-to-day activities, typical working conditions, employment outlook, training, qualifications and earnings. Although principally aimed at job seekers, hiring managers can use them to spot-check how their IT staff members' requirements, responsibilities and remuneration compare with national averages.

**Employment by Occupation**

[stats.bls.gov/emptab22.htm](http://stats.bls.gov/emptab22.htm)

This chart shows IT employment numbers from 1996 and projections for 2006, the projected percentage change and number of openings for all jobs. Scroll to find IT-related "clusters," as the Bureau of Labor Statistics refers to them.

## How to Deal With the IT Workforce Shortage

[www.sinnnet.org/issuesadv/position%20statement.htm](http://www.sinnnet.org/issuesadv/position%20statement.htm)

Turnover rates average 15% in today's IT organizations, according to this report by the Society for Information Management, a professional association of 2,700 IT executives. The group suggests five approaches to closing the gap in the IT labor market, including several that managers can start in their own IT organizations. ■

## EXECUTIVE TRACK



Johnnie Austin has been promoted to vice president of application development at Millbrook Distribution

Services, a distributor of health and beauty care items, general merchandise and specialty foods in Leicester, Mass. Austin has worked at Millbrook for 18 years, mostly in the IT department. Prior to his promotion, he was Millbrook's director of application development.

Scott Niece has been named vice president and CIO at Metromedia Restaurant Group, parent corporation of the Bennigan's, Steak and Ale, Ponderosa and Bonanza chains. Most recently, Niece was a partner at the Dallas office of CSC Consulting, providing information technology services.



John Polizzi has been appointed vice president of MIS, North America, at Burger King Corp. in Miami.

Prior to this appointment, Polizzi was senior vice president of MIS at Caldor Corp., where he was responsible for all IT functions.



Also at Burger King, Rafael Sanchez has been appointed president of MIS/technology and infrastructure. Sanchez was previously director of technology at The Pillsbury Co., where he coordinated the overall design of IT technical architecture for the company's Latin American operations and participated in the development of an IT infrastructure plan at Pillsbury International.

Prior to that, he was at Frito-Lay International, Westinghouse/CBS, Turner Broadcasting and PepsiCo Foods International.

Terrie J. Rollins has been named CIO at Howrey and Simon, a nationwide law firm that specializes in complex business litigation, antitrust and intellectual property issues. Rollins has 22 years' experience as a business executive in a variety of industries, specializing in IT strategy, technology transformation, corporate solutions deployment and global systems implementations and integration.

Jon J. Ricker has been named president and CIO of the newly



reorganized Limited Technology Services (formerly Limited Information Technology), which oversees

technology services for all The Limited apparel chain stores. Ricker joined The Limited in 1996 as vice president and CIO. Prior to that, he was vice president and CIO at BellSouth Corp. and was vice president of corporate systems development at Federal Express Corp.



Also at The Limited, Godfrey A. Streat has been named vice president of human resources for IT

at The Limited Inc. in Columbus, Ohio, which operates several clothing, intimate apparel and beauty care specialty stores including Express, Lerner New York, Henri Bendel, Lane Bryant, Structure, Victoria's Secret and Bath & Body Works. Prior to joining The Limited, Streat was executive vice president of human resources at MBNA America Bank, where he was responsible for implementing recruitment and retention programs for the company's IT sector.



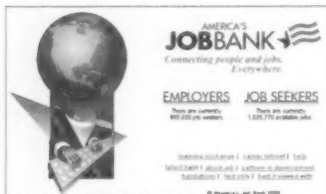
Daniel A. Valenti has been appointed vice president and CIO at PG&E Energy Trading-Gas Corp., a

Houston-based energy marketer that provides wholesale power, natural gas and price-risk management products to industrial and utility customers. PG&E Energy Trading-Gas is a subsidiary of PG&E Group, an energy holding company in San Francisco. Previously, Valenti was CIO for the Americas region at ING Barings Financial Services Inc.



Patricia Wallace has been named executive director of the Center for Knowledge and Information

Management at the Robert H. Smith School of Business at the University of Maryland in College Park. Previously, Wallace was associate vice president and CIO at the University of Maryland's University College, where her responsibilities included academic and administrative computing, telecommunications and distance education technologies.



America's Career Info Net lets you slice and dice data by occupation

## America's Career Info Net

[www.acinet.org/acinet/](http://www.acinet.org/acinet/)

This site pulls together the federal government's occupational data and offers it in a searchable, dynamic database that breaks down data by state and job category. Data related to IT jobs can be sliced and diced into many views including training and education, industry trends, detailed wages, market comparisons and more.

For example, the General Outlook on the home page yields the lowdown on occupations: the fastest-growing, highest-paying, those with the most openings, those with the

# Profit Centers vs. Cost Centers

BY THOMAS HOFFMAN

**I**N BUSINESS, an operating unit is either making money or it's detracting from a company's profits. In simple terms, it's the difference between a profit center and a cost center.

Conceptually, a business unit is considered a profit center when "it's set up as a small business — it has its own revenue and profit targets," says Haim Mendelson, the James Irvin Miller professor of information systems and management at the Stanford Business School in Stanford, Calif.

On the flip side, a company unit such as the human resources department doesn't earn revenue or turn a profit. Its objective is to hire, train and support the company's employees, and there's a cost to the company to run the unit. As such, human resources is typically viewed as a cost center.

It's important for information technology professionals to understand and differentiate between the two concepts in order to "know how your [IT] organization is viewed by the rest of the company," says Jim Jones, managing director of the Information Management Forum, an Atlanta-based user group for IT executives.

IT departments traditionally were set up as cost centers. An IT organization would charge back costs to a business unit. For example, IT would charge a commercial loan division of a bank for monthly transaction processing costs or mainframe use costs. But it wouldn't bring in a profit because the division would be charged at cost. In some cases, those costs may be absorbed by the company or as part of a business unit's overhead.

If an IT department is a cost center, "the rest of the business views you as a burden," Jones says. The onus is on the group "to prove that you're providing value for the money that's being spent on information technology."

Some CIOs think their IT departments should remain cost centers. "Our core competency [in IT] is to help our

## DEFINITION

**Profit Center:** A unit of an organization that generates both revenue and expenses. Its goal is to have revenue exceed expenses.

**Cost Center:** A unit of an organization that generates expenses and has no responsibility for generating revenue. Its goal is to adhere to expense budgets.

**Why you need to know this:** IT professionals should understand how their department and other departments within the company work.

That means the IT department typically bills other business units for its services. The revenue generated by the IT department should exceed the expenses for delivering the services.

Some organizations believe that approach keeps IT expenses competitive and reduces unnecessary demand for IT services from the business units. It often allows business units to shop for IT services outside the company and, in some cases, permits the IT department to market its services to other companies.

One example of an IT department making money outside the company is at AMR Corp., the parent company of American Airlines, which in 1986 set up its Sabre computing unit as a profit center after seeing how much demand there was for its information services from other airlines, Mendelson says. It was so successful that it spun off into its own company in 1996.

Other companies that have set apart their IT organizations as profit centers include Shell Oil Co. in Houston and United Services Auto Association in San Antonio, Birge says.

## At Dollar Bank, IT department seen as both



**Abraham Nader, senior vice president of IS at Dollar Bank in Pittsburgh, recently spoke with Computerworld about his department's approach to profit and cost centers.**

**A.** We use both. Some areas, such as check processing, are a cost [center] by definition. Running your personnel or payroll systems are costs that are needed to help you run your business. The cost of running a payroll system doesn't produce a profit, but it's an expense that's needed to run your business.

Systems we manage as a profit center include our commercial loan, mortgage and credit-card systems.



**Q. Why is it important for IT professionals to know the differences between a cost center and a profit center?**

**A.** If you are held accountable, from a profit standpoint. If your management wants you to keep costs down, you literally don't worry about the effects on products and profits. If you manage as a profit center, you worry about [return on investment]. You look at what is the least amount of investment in a product, like a software package to generate the greatest profit.

**Q. Is Dollar Bank's IT department set up as a cost center or a profit center?**

**Q. How can you measure a cost as a profit?**

**A.** The data center is a necessary cost, but why not try to turn that expense into a profit? If the data center supports a set of products that are profitable to us, then it could be viewed as a profit center for us.

We work with our accounting department to create models to help us determine how, say, a storage device has a profitable impact on our commercial loan business.

company build aircraft structures, not to code [enterprise resource planning] systems, so I could not see us as a profit center," says Julie Peeler, corporate vice president of manufacturing and information systems at The Aerostructures Corp. in Nashville.

So where does the cost center approach work best? "That is like asking a doctor if tetracycline is a good drug. It depends what your illness is," says Eileen Birge, vice president of research at The Conco Group in Houston.

For companies that have a

"bloated" IT organization and end users who are "poorly disciplined," a cost center-type approach "isn't going to help you," Birge says.

However, it's common for IT organizations to be set up as cost centers in highly-regulated industries, such as financial services or electric utilities. "to show regulators where the costs are" by charging IT costs to individual business units, Birge says.

Other companies, such as The Hartford Financial Services Group in Hartford, Conn., have elected to set up

their IT organizations as profit centers with a goal of generating zero profit.

The idea here is to help the company run more efficiently by making the IT organization compete with external consultants and systems integrators for work from the business units, Birge says.

Because the IT organization is often the biggest cost center in most companies, there's a growing trend to set up IT as a profit center, Birge says. That is especially true in companies where there's a competitive market for IT services.

## Teamwork

Ideally, IT profit centers should be closely aligned with other parts of the company to reach organizational goals. Mendelson points to Charles Schwab & Co. in San Francisco, which set up a separate electronic brokerage division a few years ago. The success of that initiative "has been a joint product of the IT and business people," Mendelson says.

But setting up IT as a profit center has risks. In some organizations, IT managers and staffers are eligible for bonuses if they meet or exceed profit targets. In those instances, the IT organization "has lost some alignment of interests" with the businesses they cater to, Birge says. ■

## MOREONLINE

For more information on profit and cost centers, visit our Web site.  
[www.computerworld.com/more](http://www.computerworld.com/more)



JOE AUER/DRIVING THE DEAL

## Negotiate everything, or negotiate nothing

**D**O YOU WANT to see a vendor's ugly side? Here's an easy way: Forget to include a needed ancillary product or service (such as maintenance in a hardware deal) in initial negotiations. Here's what happened recently to a Fortune 100 firm: The company negotiated what appeared to be a very favorable hardware deal for disk storage. The purchase agreement called for a 60% discount off list price. The manufacturer also included a two-year warranty. What could possibly be

wrong with a deal like that?

Two years and more than \$1 million in purchases later, the supplier presented its standard maintenance contract with — you guessed it — no discount on maintenance. The customer balked at the high maintenance fees and challenged the supplier.

The supplier's response? Maintenance wasn't part of the original deal. And, because it initially gave such a great deal on the hardware, the maintenance had to be at full retail price. The maintenance contract also was nonnegotiable, and had to be signed to start the maintenance. The customer had a mess on its hands.

Through stressful negotia-

tions, the customer leveraged its well-known name, large purchase volume and the availability of third-party maintenance providers. The customer also reminded the vendor of its growing use of the vendor's equipment throughout its global business. In the end, the vendor reluctantly agreed to a 20% discount on all hardware maintenance. Just as important, the maintenance contract became negotiable.

It would have been much less painful to include maintenance in the initial negotiations instead of being blindsided.

The lesson: Don't jump at what appears to be a great deal until you identify all

the related contracts, which can include software, consulting and leases in addition to hardware and maintenance. And don't execute any contracts until they're all negotiated, because a commitment to one destroys negotiating power on others.

### Fixed-Price Deal — or Time-and-Materials?

Choosing between a fixed-price deal or a time-and-materials deal is a decision we all face eventually when contemplating consulting or development deals. Suppliers prefer a time-and-materials relationship because it puts the customer on a pay-for-all-of-the-supplier's-time basis —

and suppliers are more responsible for accounting for their time than for the outcome. Customers would rather have a highly quantified deal, making the supplier accountable for delivering a defined result for a fixed or not-to-exceed price. Nevertheless, there are good reasons for you to use both approaches.

The "building a house" analogy helps to understand which approach is best:

If you're thinking about building a house, you need to work with an architect to develop the design and building specifications. In that situation, a time-and-materials approach is appropriate because you're paying for the architect's time and creativity in a project with a less-than-well-defined scope.

The architect interacts with you for an undetermined amount of time to develop the overall concept, the floor plan and produce the blueprint, all to your sat-

isfaction. Considerable changes or more time may be needed as the creative process and your ideas progress. But once you have the blueprint in hand, you can negotiate a fixed-price deal with a contractor to build the house because you

have very detailed specifications. The contractor can be accountable for delivering results — the move-in-ready house for a fixed price.

Technology deals can be viewed much the same way. A time-and-materials relationship can be used for the conceptual design phase that produces the project specifications.

The specifications can then be used as the basis for a fixed-price bid.

There are many more contracting issues surrounding both time-and-materials and fixed-price deals. Each type of engagement requires its own contract. But remembering the building-a-house analogy is a great way to start. ■



JOE AUER is president of International Computer Negotiations Inc. ([www.dobetterdeals.com](http://www.dobetterdeals.com)), a Winter Park, Fla., consultancy that educates users on high-tech procurement. ICN sponsors CAUCUS: The Association of High-Tech Acquisition Professionals. Contact him at [jose@dobetterdeals.com](mailto:jose@dobetterdeals.com).

## WORKSTYLES

### What It's Like to Work in IT At Harrah's Lake Tahoe Casino

Interviewee: Tim Slater, IT product manager, customer service products

Company: Harrah's Entertainment Inc., a casino operator  
Location: Lake Tahoe, Nev. (company is based in Memphis)  
Number of IT employees: 12 in Lake Tahoe; four support Harrah's IT nationwide, and eight are dedicated to the Lake Tahoe property  
Number of employees (end users): 2,500 locally  
The view from IT: "From the IT area we have a beautiful view of a mountain and blue sky. It's home to the

Heavenly Valley Ski Resort, one of the largest in the world. From the other side of the building, you can see the lake."

Dress code: Business casual — Dockers and a nice polo shirt. "We have more of a trendy, yuppie, Silicon Valley style than a Southwestern style."

Workday: Officially, 8 a.m. to 5 p.m.; some people put in four 10-hour days or work longer days, with Friday afternoons off.

In-house/cafe/food service? "Yes. We get one free meal a day in our employee cafeteria."

Rating (scale of 1 to 10, with 1 poor): 8 or 9

What's unique about working in IT for a casino? "It's a 24/7 business, so there are no off-hours. The times that most IT organizations would consider downtime, like a three-day weekend, are our big times, so we never put in any changes to the system on a Thursday or Friday. Also,

we have a lot of businesses under one roof: The cashier's office runs like a bank, and we have seven or eight restaurants, bars and retail shopping, all supported by IT."

Types of systems supported: The slot machines are hooked into a monitoring system that makes sure they're working properly. The system also keeps track of how much players are spending via the casino's frequent-flyer-type tracking program called Total Gold.

What do you have in your office? "I

have a picture of my daughter next to my keyboard, a Harrah's Chairman's Award for Innovation that I won in 1996 — it has a marble base with an engraved glass insert — and a wooden plaque for a Harrah's patent for our player-tracking system that lists me as the inventor."

Little perks: "When there's a new show, we get free employee tickets."



We have an employee ski day in the winter and a picnic in the summer. Some of us will bring our boats and give people rides, or take them water skiing."

Any other group amenities? "We have a health club that is part of the hotel that we can use for a nominal fee. We also have covered parking — that's a big privilege when it snows."

Other group activities: "This is a small town, so we're all friends, and we see each other after-hours. We

have a Thursday night volleyball game together in the summer, and we go boating on the lake together. There are a lot of group skiing outings in the winter. We all live in the area and enjoy the outdoors."

Quote: "This company has been very good to me over the years. I've been in IT for 12 years and was with Harrah's for seven years before that. I started out in the facilities department as a repair person. Then I took a few classes in electronics and moved into maintaining electronic devices like our electronic Keno games or the electronic scales that weigh the money in our coin-handling area. And the more I was involved with that, the more I got into computers. So I switched over to IT as a programmer, and now I'm a manager."

"It's been a real career progression over time, through training — that's something Harrah's is really good at." — Leslie Goff

# TECHNOLOGY

## IPLANET, YOU PLANET . . .

Sun/Netscape alliance officials have rebranded their joint software products, dubbing them iPlanet, and fleshed out details about product plans. IT shops that use Sun Microsystems' Net-Dynamics may have some code rewriting ahead of them. **► 51**

## LYRICAL LINUX

Warehouse Entertainment is testing Linux to serve up sample audio clips for CD shoppers. Its choice of the open-source operating system as a single-task, "appliance" server could be a sign of things to come. **► 51**

## PALM JOINS WIRELESS GROUP

3Com's Palm Computing division has joined other players, including Sun and Hitachi, in backing the Wireless Access Protocol. The move is significant because Palm had invested heavily in a different wireless technology but has now apparently read the writing on the wall. **► 52**

## AUDITS TO GO

A larger screen led Sodexo Marriott Services to choose the Vadem Clio, rather than less expensive handhelds, for auditors conducting food and fire-safety inspections. **► 52**

## AERIAL BACKUP

Fearful of seemingly constant cable cuts and

other service interruptions, Colgate-Palmolive has gone to the air to back up the T1 line that links it to MCI WorldCom's nationwide network. **► 53**

## GUERRILLA E-COMMERCE

Commentary: Bringing e-commerce to a reluctant, conservative market such as health care isn't easy. Asterion.com is going about it the right way, according to Robert L. Scheier: starting small and hiding the technology from the end users. **► 53**

## 'SORRY, I'M BUSY'

Emerging Companies: Start-up Time Dance aims to end scheduling hassles with a Web tool that reaches across company boundaries. **► 54**

## QUICKSTUDY

Point-to-Point Tunneling Protocol is a popular, inexpensive standard for creating a virtual private network. **► 55**

## EXEC TECH

We look at 38 useful sites that you may not know about that can help you through your day. **► 60**

## FLASHBACK

In 1979, Usenet debuted and software pushed microcomputers into the business market. **► 62**

## MORE

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IF BUYERS AND SELLERS can't reach the Crossmarket.com Web site, these Furbies won't have a home

## NOT JUST FUN AND GAMES

"DOT-COM" companies bet their business on the Web, so you can bet they take Web-monitoring very seriously. The methods they use to track customer behavior and site performance vary widely — and may provide answers to your site's monitoring problems.

# 56

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**VERITAS**



# Linux 'Appliance' Serves Music Samples at Stores

Retailer taps open-source operating system to let shoppers hear any song on any CD

BY DAVID ORENSTEIN

IF LINUX'S brightest future is as a one-task "appliance" server, Wherehouse Entertainment Inc. is providing a glimpse of that future.

The music and video chain is testing a digital system that will allow customers to hear 45 seconds of audio from every song on every CD in the store's inventory, rather than listening to only preselected CDs on a rack.

In a report last month, Dataquest, a unit of Stamford, Conn.-based Gartner Group Inc., projected that sales of Linux will be strongest in such task-specific roles [Technology, July 26]. Unlike an application or a database server, an "appliance" server is dedicated

to running one application, often with a scaled-down version of the operating system.

That's because Linux's appeal as a general network operating system will be curtailed from its current, rapid growth when Windows 2000 is released later this year and is made more stable by a service release, said Kimball Brown, an analyst at Dataquest.

## IBM Gets Into the Act

Wherehouse is testing Linux on IBM Netfinity Servers, which will store up to 36G bytes of compressed audio clips that customers can sample in listening booths, said Brad Barrish, director of special projects at Torrance, Calif.-based Wherehouse.

The servers, although not

## Linux Server Forecasts

Dataquest predicts that Linux will sell better as a task-specific appliance server operating system rather than a general server operating system.

WORLDWIDE SERVER REVENUE (general)			
	1999	2002	
Linux	\$829M	\$1.6B	
Total server market	\$47B	\$52.7B	
WORLDWIDE APPLIANCE SERVER REVENUE			
	1999	2002	
Linux appliance revenue	\$441M	\$2.2B	
Total appliance market	\$2.2B	\$9.4B	

running an especially light version of Linux, are dedicated to one task, as appliance servers uniquely are.

The 580-store chain said it's testing the system in its Texas stores and will roll it out to 15 top stores later this year. Based on its success, the system could eventually be rolled out to every store, Barrish said.

Barrish said the system, developed by Advanced Communication Design in Minneapo-

lis, will be implemented either with a server in every store in the chain or remotely to at least some stores over Digital Subscriber Lines or fractional T1 lines.

## Lower Cost

The cost of the bandwidth and the servers will be offset by the lower cost of Linux compared with other systems, such as SCO Unix. Beyond the lower cost, Wherehouse pre-

ferred to use Linux because it's an open standard with substantial support from a vast, albeit loosely affiliated, online community of developers, Barrish said.

Wherehouse will also save money by offering music previews digitally to its customers. Blockbuster Entertainment Group in Dallas, which used to operate the stores before Wherehouse took them over, lost millions of dollars in wasted inventory with a system that required clerks to open sealed CDs to play music for curious customers, Barrish said.

The company is the first to use IBM's new RAID driver for Linux on Netfinity, but Barrish said he's confident that between IBM's pledges to support Linux like any other operating system and support from the Linux community, it will work.

Analyst Stacy Quandt at Giga Information Group Inc. in Cambridge, Mass., said Linux's ability to run a RAID system and the complex technologies of digital, audio compression and streaming content is a good sign that it's maturing into a more capable and robust operating system. ■

# Sun/Netscape Opt for Netscape Code

Will be core of future server offerings

BY CAROL SLIWA

Sun/Netscape Alliance officials recently updated details about their formerly competitive product lines — including application, messaging and Web servers and Web client software — that will be rebranded under the name iPlanet.

Customers concerned about the future development of the alliance's application server will find that product "predominantly" based on Netscape Communications Corp.'s Application Server (NAS) code base rather than Sun Microsystems Inc.'s NetDynamics, according to Stewart Wells, the alliance's senior vice president for application infrastructure products.

The application server's direction is important to information technology shops that have written their applications

to work with either NAS or NetDynamics, both of which have sizable customer bases.

The Alliance opted for more NAS code because of its more advanced support for key enterprise Java technology, Wells said.

To implement Java 2 Platform Enterprise Edition, (known as J2EE) "We had to make a hard shift one way or another," Wells said. "NAS was ahead of the curve with entity bean support, for example." An entity bean is a component that represents data such as a bank account, purchase order or employee. The entity bean can also have business rules associated with it such as "update bank account" or "calculate employee salary."

The alliance does plan to take advantage of NetDynamics' code for tools and connec-

And plans call for the iPlanet server to support the application programming interfaces of NAS and NetDynamics.

"But what we're telling customers is: Your legacy applications will run on the application server 6.0, but what you should do for new development [is focus] primarily on using the current versions of the J2EE specifications," Wells said.

That move to a J2EE-centric model will mean some code rewriting for customers who wrote the applications to either NAS or NetDynamics, noted Phil Costa, an analyst at Giga

Information Group Inc. in Cambridge, Mass.

NetDynamics user Steven Durlinger, a software project

manager at Southern California Gas Co. in Los Angeles, said he hopes his online application will continue to work and be supported in the new iPlanet product. In the meantime, he's in no hurry to move to the J2EE model — which has Enterprise JavaBeans at its core — until he sees a business need for it.

The iPlanet 6.0 application server is expected in the first half of next year. A family of application server products targeted at different market segments is due by the end of next year.

Future Web browsers will fall outside the iPlanet branding scope. They will continue to carry the Netscape name and be developed under Netscape's "Mozilla.org" open-source effort, said Mark Tolliver, president of the alliance forged when America Online Inc. acquired Netscape last November.

Sun developers, however, will participate in browser development through that open-source effort, Tolliver said. ■



MARK TOLLIVER said the alliance's future Web browsers will be developed under Netscape's Mozilla.org open-source effort

tor code that helps developers link their applications to enterprise resource planning and database systems, Wells said.

## BRIEFS

## PC Shipments Soar

Worldwide shipments of desktop and laptop PCs totaled 25.3 million units in the second quarter, compared with 20 million in the same quarter in 1998, according to Dataquest in San Jose. Meanwhile, International Data Corp. in Framingham, Mass., reported slightly different numbers of about 25.6 million units shipped. Analysts pointed out that with prices tumbling, profits, not units shipped, are PC makers' main concern.

## Giganet to Offer CLAN for Linux

Giganet Inc. recently said it will extend its cLAN server cluster interconnect products to support the Linux platform. The cLAN1000-LNX and cLAN5000-LNX will be available in the third quarter, according to the Concord, Mass., company.

Pricing starts at \$6,250 for the eight-port cluster switch and \$795 for the host adapter.

[www.giganet.com](http://www.giganet.com)

## Linux Office Server

Rebel.com Inc. has announced NetWinder Office Server, an Internet server appliance. Based on a RISC microprocessor, the product runs the Linux operating system, the Ottawa-based company said.

Pricing starts at \$895.

[www.rebel.com](http://www.rebel.com)

## Apple Invests \$100M in Samsung

Apple Computer Inc. announced last week that it's investing \$100 million in Samsung Electronics Co. to help the South Korean company's semiconductor subsidiary expand its production capacity for some laptop display panels that have been in short supply since last year.

Apple is making the investment to ensure that there will be an adequate supply of the thin-film transistor liquid-crystal displays for its portable products, according to a statement released by the Cupertino, Calif.-based computer maker.

"With our new iBook and fast-selling PowerBooks, Apple will need more flat displays than ever," said Apple's interim CEO Steve Jobs.

## Smaller Isn't Better for Some Handheld Users

*Larger screen prompts Sodexho Marriott to choose Vadem's product over cheaper machines for on-the-spot inspections*

BY MATT HAMLEN

**W**HEN auditors from Sodexho Marriott Services

Inc. traipse through kitchens and boiler rooms to conduct surprise inspections for food and fire safety, they carry the Clio, a handheld from Vadem Inc. that runs Windows CE.

Auditors can use the 3-pound device like a tablet, using a stylus or a finger to answer dozens of questions on the 9.4-in. color screen. Or they can enter longer comments through a near-standard-size keyboard when the screen is flipped up.

The food-service vendor said it chose the \$999 Clio over other Windows CE-based systems costing half as much because its larger screen is easier to read.

Since April, the Gaithersburg, Md., company has used 22 of the Clios to conduct more than 500 audits nationwide, said Frank Romeo, senior manager of loss prevention.

Previously, auditors carried paper forms, which had to be duplicated and faxed to dozens of locations.

Results now are e-mailed quickly and are easily compiled to create monthly reports. The Clios run Mobile Auditor software from Steton Technology Group Inc. in Santa Clara, Utah, Romeo said.

## Time-saver

"It used to take about six hours with paper, and I can [now] do [an audit] in less than four hours," said Katie Hoagland, a loss-prevention analyst at Sodexho Marriott.

The company chose the Clio in January over several other handhelds, including Apple Computer Inc.'s Newton, which is no longer sold, the Phillips Corp. Nino and a prototype of the Jornada 420 from Hewlett-Packard Co.

"At first, I thought smaller was better," Romeo said. "But we had two guys wearing glasses who thought the [Nino's] screen was hard to read."

Upon finishing audits, So-

dexho Marriott wanted to immediately share the results with dining hall managers, who favor the Clio because its screen can be seen by several people at once when the system is in its easel mode.



SODEXHO MARRIOTT'S KATIE HOAGLAND says Vadem's Clio cuts hours off the time it takes her to complete an inspection

When a manager accepts the audit, he simply signs his approval on the screen; the signature is captured for corporate records, Romeo said.

On the downside, Romeo said he doesn't use the Clio as his only computer on the road; he prefers a full-size laptop for editing PowerPoint presentations. The Windows CE version of PowerPoint has limited editing capabilities, a problem shared by other applications, analysts said.

## Slow Start

Since so-called Jupiter class machines such as Clio debuted last fall, "some people thought they'd take the world by storm, but they have been surprised at how slow Jupiter has taken off," said Jill House, an analyst at International Data Corp. in Framingham, Mass.

Vadem, in San Jose, and analysts said the most promising market for such systems will be in vertical industry applications where a machine is picked to solve a specific need, such as at Sodexho Marriott, rather than general business use. ■

## 3Com's Palm Backs Wireless Protocol

*WAP would enable Palm users to browse Net, download bit-map images*

BY JAMES NICCOLAI

3Com Corp.'s Palm Computing division has quietly thrown its weight behind the Wireless Application Protocol (WAP), an emerging technology designed to bring Web browsing capabilities to mobile phones, handheld computers and pagers.

3Com has been eyeing WAP for use in its Palm computer for some time but until now hadn't confirmed any definite plans.

The move is significant for Palm Computing, which invested heavily to develop its own wireless technology

called "Web clipping" for the Palm VII.

## More Advanced

WAP is expected to offer more advanced capabilities than Web clipping, including the ability to browse the Net and download bit-map images.

The world's leading handset makers have said they will offer WAP-enabled phones by the end of the year, and analysts expect the technology to take off quickly after 2000.

It's still not clear when or how 3Com plans to incorporate the technology into the Palm.

Palm Computing recently joined an industry group called the WAP Forum. Hitachi Ltd., Sun Microsystems Inc. and Wireless Knowledge LLC (a joint venture of Microsoft Corp. and Qualcomm Inc.) have also joined the group in the past month.

Sun's interest in WAP is twofold: to work on the convergence of WAP with its own Java standard and to profit from the sale of WAP-enabled handsets, or personal digital assistants, which are expected to ship in the millions in the near future, the company said.

More information about the WAP Forum can be found at [www.wapforum.org/](http://www.wapforum.org/).

Niccolai writes for the IDG News Service in San Francisco.

# Colgate-Palmolive Goes Wireless for Backup

*High-speed microwave beats landlines to back up T1 link for consumer goods giant*

BY BOB WALLACE

**F**EARFUL of seemingly-constant cable cuts and other service interruptions, Colgate-Palmolive Corp. has gone to the air to back up its existing T1 line, which links it to MCI WorldCom's nationwide network.

The consumer goods manufacturer opted to buy a second 1.544M bit/sec. T1 provided by network operator WinStar Communications Inc. in New York. The new line will enable Palmolive to complete voice calls and eventually data transmission in emergency situations.

"It's an excellent safeguard

because you never know when a fiber is going to be cut or a manhole is going to blow up," said John Rosado, communications manager at New York-based Palmolive.

## Permission Denied

The company considered having a cable company or bypass carrier provide a backup link but couldn't gain permission to build a second entry into its building, Rosado said.

Instead, Palmolive decided to contract with WinStar, which installed a dish on the roof of the company's building and linked it to the user's private branch exchange.

Although neither Colgate-

Palmolive nor WinStar would discuss the agreement's pricing details, providers in the emerging high-speed wireless market typically price their service 25% to 30% below the price of local carrier-provided lines that are in the ground and have access to a second building entry point, said Eric Rasmussen, an analyst at TeleChoice Inc., a Boston consultancy.

Colgate-Palmolive is among the very first users to turn to a high-speed wireless carrier, Rasmussen said, adding that the market is dominated by WinStar and Teligent Inc., which is based in Seattle.

A backup cable link could cost as much as a couple of hundred thousand dollars if a second entry had to be built and the local carrier had to install new cable.

"You're paying the local carrier to dig up the streets and lay the cable along with manpower costs," said Tele-

## Connecting By Microwave

### PROS

- Can be less expensive than landlines
- Can be deployed quicker than land links
- Can back up primary connection more easily

### CONS

- Requires a line-of-sight
- Heavy rain can degrade the quality of the signal temporarily
- Requires the building owner's approval to install a dish on the roof

SOURCE: COMPUTERWORLD RESEARCH

Choice's Christine Heckart. "And in the best case, all this takes at least several months."

Wireless links do have drawbacks, though. For one thing, users who want wireless systems need to get approval to install microwave dishes on the roofs of their buildings. Moreover, they must have a direct line-of-sight to the wireless provider and they may experience temporary service degradation during heavy rain. However, Rasmussen noted, getting approval to put a microwave dish on the roof "is easier and faster than digging up streets."

If Colgate-Palmolive's local T1 line is knocked out, traffic is rerouted over the WinStar microwave link to its network, which carries the calls over fiber and finally over microwave to their destination.

In addition, if work has to be done on the MCI T1, Colgate-Palmolive can use the WinStar link in the interim. If Colgate-Palmolive generates more traffic than the MCI line can handle, overflow traffic can be carried over the WinStar connection, Rosado said. ▀

ROBERT L. SCHEIER

# Guerrilla e-commerce

**F**ROM the average doctor's office, the world of e-commerce seems far, far away.

Checking the status of a claim or a patient's coverage means phone tag with HMOs or insurers. Appointments and patient data are

kept on menu-based systems that make it torture just to change an appointment. The only connectivity may be the 2.4K bit/sec. modem in the (unplugged) 286 or the fax machine on the filing cabinet.

The obvious technical answer is thin-client computing, which would centralize complex medical protocols and reimbursement rules on the server and eliminate the need for costly client-side application updates. But doctors are notoriously

stubborn and independent, making them poor candidates for standardized systems. And both the data and the decision-making power are scattered among HMOs, physicians, clinics and other providers.

How to solve this problem? From the bottom up, winning the hearts and minds of the natives first.

That's the approach of Seattle-based Asterion.com, an application service provider for the managed-care medical market. The

strategy is worth watching for anyone trying to bring the benefits of e-commerce to a conservative, decentralized vertical industry.

## Starting Small

Asterion.com is starting small, signing up local "communities" of doctors, insurers, health-care facilities and providers. For a single monthly fee, subscribers get everything they need to access patient records, claims processing, payment histories and other clinical and business applications over the Web.

The heavy lifting (such as processing the rules for

treatment, referrals and compensation) is done on the Unix application servers Asterion maintains.

Those servers link to a database of information such as patient eligibility and co-payment levels. Because the community is made up of local providers who already work with one another, Asterion avoids the buzz saw it would face if it tried to impose such standards industry-

wide.

There's also no forced change for users, because a thin client can display any interface — from terminal emulation to menu-driven applications to a Web browser. Because the only data traveling

over the wire is screen updates, the applications can run on anything from a 2.4K bit/sec. modem on up.

Putting all this data on a remote server isn't a security concern, said director of technical implementation Bakha Nurzhanov, because Asterion.com provides a secure intranet for subscribers. What's more, he said, the data being shared is more akin to the billing information found on an insurance claim than to the detailed medical records kept by a doctor.

Asterion.com has signed up 6,500 doctors representing 245,000 patients, generating \$2 million in annual subscription revenue. The company has also lined up \$6 million in funding. It claims it can cut administrative costs from \$3 to \$5 per patient per month to between 50 cents and 80 cents per patient per month.

Whatever the fate of Asterion.com, it has a smart approach to e-commerce: Start small, show a quick return on investment, and hide the technology from the users you're helping. ▀



ROBERT L. SCHEIER is Computerworld's technology editor. He can be reached at robert.scheier@computerworld.com.



# Time Dance a Time-Saver For Corporate Schedulers

Service lets companies coordinate group meetings, calendaring via Internet, e-mail

BY AMY HELEN JOHNSON

**W**HEN TOM Stegmann, director of sales at supply-chain management software vendor Symix Systems Inc., wanted to arrange meetings with people outside his Columbus, Ohio-based company, he didn't have much choice but to grab a piece of paper, contact the attendees and try to negotiate a good time for everyone to gather.

Stegmann has turned that tedious process over to Time Dance, an online scheduling service built by Redwood City, Calif.-based start-up Time Dance Inc. The service lets individuals schedule group meetings through its Web site, while maintaining the personal calendar system they prefer.

Schedulers aren't new. Most companies have them on every desktop as an adjunct to their calendar system. The big three — Microsoft Corp.'s Outlook, Lotus Development Corp.'s CC:Mail and Novell Inc.'s GroupWise — offer a scheduling feature, as long as everyone uses the same software.

It was that qualification that drew Mark Lazar, CEO and president of Time Dance, and Mark Drummond, chief technology officer, to the idea of a vendor-independent, Internet-based scheduling application. By separating the scheduling function from the actual calendar, they reasoned, Time Dance could be useful to anyone with Internet access.

But to be successful in a corporate environment, Time Dance needed to protect business data with serious security and privacy constraints. First and foremost, Drummond stressed, Time Dance doesn't breach the corporate firewall with anything more exotic than an e-mail message or an HTTP Web protocol request. All the action happens on the

Time Dance servers, which are isolated at an undisclosed location and protected by state-of-the-art security measures such as handprint entry keys.

Participants get an e-mail invitation from the meeting's initiator, with a list of suggested times and a hot link to an

R.S.V.P. page; the invitation contains a security stamp that lets each person see only that page. People respond on the Time Dance server.

Unlike many corporate calendaring systems, any open time isn't automatically assumed to be a good time; if a participant doesn't want to spend Thursday afternoon in a meeting, then she just doesn't choose that time option.

Stegmann likes being able to

choose. "If you saw my calendar and saw an open hour, it might not be open to you," he said. "And if you saw a busy hour, it wouldn't be busy for the CEO of my company. Time Dance lets me make a value judgment on the event."

After all invitees respond, the initiator gets a summary and picks the best option. Another round of e-mail goes out announcing a firm date and time.

Still, there are a few security flaws to the system. Forwarding an invitation to another person allows that person to see the R.S.V.P. page and learn things like who will attend and all the information supplied by the initiator. Although it's only a small chink in Time Dance's security, it could be significant if the meeting is telling, like merger talks.

Time Dance does shine in maintaining the personal privacy of a user's calendar.

It only tracks meetings that are initiated in it; users maintain separate calendars. That neutrality makes Time Dance viable in a wide variety of corporate frameworks. "We need to integrate effectively with their calendar, not duplicate it," Lazar said.

The company's longevity and its usefulness to corporate information technology and users will depend on the service's widespread adoption. Lazar is going about that in a quiet manner, relying largely on word-of-mouth — because every recipient of a Time Dance invitation is a potential user, he said.

Mike Comiskey, a senior analyst at International Data Corp. in Framingham, Mass., said he thinks Time Dance has "a good chance to be a significant player." Partnering with a prominent Web player, like a major portal, would help, he added.

Stegmann has his own answer. "My personal wish is that Outlook would go buy it," he mused.

Johnson is a freelance writer and analyst in Seattle.



CEO MARK LAZAR, left, and Mark Drummond, chief technology officer, hope word-of-mouth builds Time Dance's following

## Time Dance Inc.

Location: Redwood City, Calif.

Telephone: (650) 298-0360

Web: [www.timedance.com](http://www.timedance.com)

Niche: Online scheduling service that works with your existing calendar program.

Why it's worth watching: Time Dance safely expands the scope of corporate scheduling and calendaring by using the Internet and e-mail to coordinate with outsiders beyond the firewall.

### Company officers:

- David Stamm, chairman of the board
- Mark Lazar, co-founder, CEO and president
- Mark Drummond, chief technology officer

Milestones: Company founded in 1998; Version 1.0 went live June 21.

Employees: 25

### Profitability:

"Profitability is not an immediate goal," Lazar says.

Burn money: \$5 million from Institutional Venture Partners and Mayfield Fund

### Red flags for IT:

- People invited to a meeting get a link to a page listing: who's attending, when, where and notes. Imagine a disgruntled employee forwarding that hot link to a competitor.
- At some point, Time Dance must make money. The current plan is to sell to customers through opt-in direct marketing. But who's going to volunteer for spam?
- Where's the Lightweight Directory Access Protocol (LDAP)? Right now, the import function works only with personal address books from Netscape Communicator, Outlook, Outlook Express and Eudora — not LDAP.

COMPUTERWORLD  
emerging  
companies

the buzz  
STATE OF  
THE MARKET

## It's a Crowded Dance Floor

### ■ Scheduleonline.com

Jintek San Diego  
[www.scheduleonline.com](http://www.scheduleonline.com)  
Darcy Fowkes, research director at Aberdeen Group Inc. in Boston, dismissed Scheduleonline.com outright. "When I got to the scheduler, it was not intuitive and there was still no guidance for what the product was there for, or could do," she said. It also has a nasty habit of crashing Netscape Navigator when you reach its home page, she said.

### ■ Easydiary.com

Ruksun Software Technologies Bellevue, Wash.  
[www.easydiary.com](http://www.easydiary.com)  
Fowkes praised Easydiary.com for its elegance and clear messages about what services it provides, now to use it and its market position. However, Fowkes noted that Easydiary.com asks you to enter all of your calendar information — and defaults to letting your contacts look at your schedule. She'd rather keep her dentist appointments to herself, thank you very much. "I think my calendar's just as private as my bank balance," she said.

### ■ Appoint.net

Appoint.net Inc. Philadelphia  
[www.appoint.net](http://www.appoint.net)  
Appoint.net has more in common with portal-based calendars from Yahoo Inc., The Microsoft Network, Netscape's Net-center and Lycos Inc. than with Time Dance. Like the portal services, it centers on a calendar kept on the site's server, offers supplemental services like to-do lists and e-mail, and feeds events into the system so you can set reminders about baseball games or check the weather. Despite its centralized paradigm, Appoint.net lets you synchronize it with Outlook and PalmPilot handheld devices.

### ■ Evite.com

Evite Inc. San Mateo, Calif.  
[www.evite.com](http://www.evite.com)  
This service most closely follows Time Dance's version of a pure scheduling application. The difference is that Evite.com focuses on personal events, like dinner parties and soccer games. You can use it for business meetings, but default suggestions like "create a barbecue" and "bring dessert for 12" remind you that it's more of a social tool.

# Point-to-Point Tunneling Protocol

BY GALEN GRUMAN

**R**EMOTE USERS who can gain access to their networks via the Internet are probably using Point-to-Point Tunneling Protocol (PPTP).

PPTP uses the Internet as the connection between remote users and a local network, as well as between local networks.

It's the most popular in virtual private networks (VPN), which are an inexpensive way to create wide-area networks (WAN), says Dave Kosiur, an analyst at The Burton Group in Reston, Va. It's easy to set up for dial-up, because there are so many Windows NT servers out there, he adds.

PPTP wraps various protocols inside the Internet Protocol (IP) — the foundation of the Internet. This lets the non-IPs travel through an IP network, without user intervention. That's key, because it saves companies the need to build proprietary and dedicated network connections for their remote users and instead lets them use the Internet as the conduit.

The process of routing one protocol through another is called tunneling — it's a bit like having an astronaut wear a spacesuit to go from one spacecraft to another. The suit maintains the air the astronaut needs. Think of the protocol — for example, Novell Inc.'s IPX or Apple Computer Inc.'s AppleTalk — as the suit he wears as he travels through a vacuum, or IP in the case of PPTP.

Using PPTP to tunnel network traffic through IP — which adds a wrapper around a network message to hide its content — you create a private connection that travels through the Internet. By using PPTP to connect LANs over the Internet, you can create a less-expensive WAN, because no dedicated phone lines are needed to connect the LANs. These lines are dedicated to one use — they're secure — because only the authorized

## DEFINITION:

Point-to-Point Tunneling Protocol is a way to encode information for transmission across networks that use the Internet Protocol. Originally designed to let remote users dial in to a network, it's also used to connect one local network to another via the Internet in a system known as a virtual private network.

LANs are connected.

In a VPN, there are no dedicated lines or cables connecting the LANs. Instead, the Internet is the connecting mechanism. This reduces the cost of having dedicated lines, but it means the LAN-to-LAN con-

nections are made through a publicly available system much like the old party lines, in which several people's phones were connected through the same system, letting people listen in on one another's calls. But by tunneling the network

traffic through IP, you create a private connection that travels through the Internet.

PPTP is based on the Point-to-Point Protocol (PPP) a remote-access standard used by Windows and Mac OS for direct dial-up. The difference be-

tween PPP and PPTP is that PPTP allows access using the Internet as the connection medium, rather than requiring a direct connection between the user and the network.

In other words, instead of having to dial up the corporate network directly, a remote user could log in to a local Internet service provider, and PPTP will make the connection from that provider to the corporate network's Internet connection. From there, it continues into the corporate network the same as if the user dialed in directly. Using a service provider lets remote users call a local number or use a network they're already connected to, while having to dial up via a phone connection usually means having to pay for long-distance calls and making the information technology department keep a bank of dial-up modems in operation.

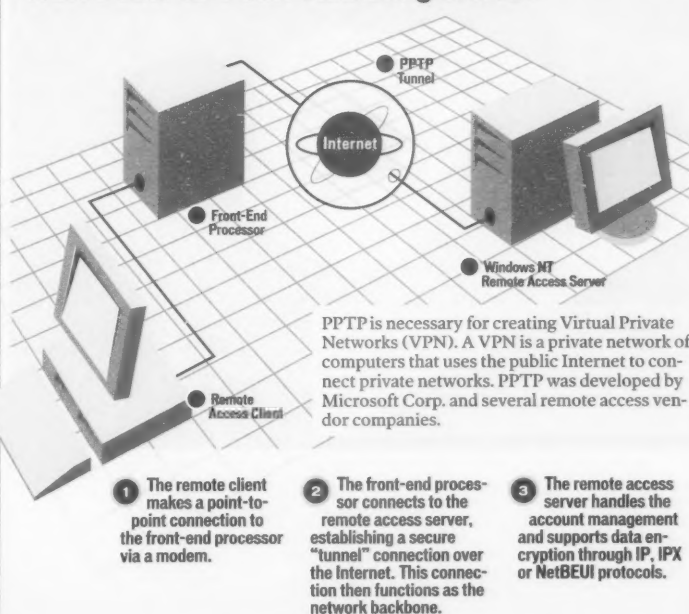
But PPTP has drawbacks. It comes with Windows NT, so it's often implemented on Windows NT Servers. But such servers typically support fewer than 100 users. And PPTP has weak encryption technology, so it's not good for highly secure transmission over the

Net, Kosiur says. Its authentication features (the same used by PPP), which ensure someone logging in is who he says he is, are also weak.

Big corporations that are going to do e-commerce or site-to-site VPNs tend to prefer IPSec, a standard based on the IP standard for secure corporate VPNs, says Michael Howard, principal analyst at Infonetix Research Inc. in San Jose. Fortunately, many gateways support both IPSec and PPTP, so companies can support both PPTP for dial-up users and IPSec for LAN-to-LAN connections, Kosiur says. ▀

Gruman is a freelance writer in San Francisco.

## How Point-to-Point Tunneling Works:



Are there technologies or issues you would like to learn about in QuickStudy? Please send your ideas to QuickStudy editor Stefanie McCann at [stefanie\\_mccann@computerworld.com](mailto:stefanie_mccann@computerworld.com).

## MOREONLINE

For more information on tunneling and PPTP, visit our Web site, [www.computerworld.com/more](http://www.computerworld.com/more)

# PLAYING FOR

**KNOWING YOUR CUSTOMERS'**  
preferences is the key to thriving online,  
say Toysmart.com Web development  
director Bela Labovitch and e-commerce  
research manager Gabe Fried



STELLA JOHNSON



## Companies that bet their business on the Web make the case for Web-site monitoring tools

By Cynthia Morgan

# KEEPS

**I**MAGINE WHAT would happen if TV were organized just like the Web. You'd be able to receive hundreds of thousands of stations, but very few would be listed in the channel guide. Stations might go off the air or change location without warning. Pity the station owner faced with finding — and keeping — viewers in this mess. But that's precisely the problem facing every corporate Web site that wants to make a profit.

Making sure customers find your site, keeping them satisfied enough to do business with you and ensuring they return should be the key goals of all business Web site teams. Keeping the site's competitive edge is a dynamic battle: Not only must you get it right the first time, but you must also continue to get it right to keep ahead of the competition.

Doing that requires multiple levels of customer tracking and site-performance monitoring, something too few commercial sites pay more than cursory attention to these days.

We talked with "dot-com" companies and people who've bet their business on the Web to see how they monitor their sites and what they do with the data. We found everything from shoestring operations

with barebones customer management systems to real-time personalization automation with around-the-clock performance monitoring.

A few things became abundantly clear: The Web-monitoring tools market remains fragmented and confusing. Many of our interviewees had difficulty finding a complete, integrated package for customer tracking that could scale to meet peak traffic loads. The biggest companies often wound up developing their tracking tools in-house.

### WEB MONITORING

"There really isn't a package out there that completely analyzes the customer experience, because each site has so many different variables," said Ettore Rossetti, general manager at Web consultant NetMarketing.com. "Each site needs to use the data slightly differently, so there's often a lot of customization necessary to be effective."

Most site administrators start by keeping site logs, which are records of users who have visited the site. A site log can grab a great deal of information from the user's browser, from the clickstream (a record of the URLs of previous pages visited during a Web session) to data such as the user's screen size, browser type and IP address. Tracking software can insert so-called cookies — small text files that encode session details

— on to the user's hard drive and read them during that user's subsequent visits to the site.

Sites use a variety of tools to gather additional data about customers. The most common these days is to require visitors to register with the site, either by filling out an online form before buying or during the purchase process. "But the customer has to understand he's getting something in return," Rossetti warns, "or registration just becomes obnoxious and doesn't work."

"Site-log analysis lets us gauge relative performance of ads and special offers," says Chuck Geiger, Gateway's vice president of Internet commerce. "We can judge the results of a facelift to the site. If we're losing people at specific points on the site, we can zero in on that page and see what it is that's scaring or confusing potential customers."

Geiger says his team recently offered a \$25 online rebate to its PC purchasers, then compared the results with a non-offer period to gauge the promotion's effectiveness. "We didn't advertise the offer outside the site, so the number of users didn't really go up," he says. "What was interesting, though, was that during the offer period, people who visited went deeper into the site and stayed longer."

Gateway uses Accrue Software Inc.'s Accrue Insight to collect daily visitor statistics and generate reports. The company also uses Microsoft Corp.'s Windows NT tools such as Performance Monitor and checks Gateway's download times against the competition's using KeyNote Systems Inc.'s performance appraisal services. The results help Geiger's administrators calculate the capacity needed for peak load times.

Customer-tracking tools have become such an important component in a Web company's arsenal that few are willing to fully identify these applications for the record. "They're a key part of our competitive edge," says Robert Dykman, vice president for technical infrastructure at barnesandnoble.com.

"Whenever we make a change on the Web site, whether it's the addition of content or the change in the color of a button, we monitor these effects through our statistics reporting systems, to assess that the change indeed had the expected positive effect," says Dave Schaefer, manager of the North American consumer site at Mapquest.com. "We use a variety of homegrown systems to monitor and report volume of usage, such as the numbers of maps drawn or the number and sequence of pages."

Geiger says tools like Accrue are useful to a point, but growing Web sites need more content-specific data than it can supply. "I want to know what's happening on the page," he says. "What are visitors entering into fields, submitted or not? What PC configurations are most popular? What other sites are they visiting? Are people who come from Yahoo Finance more likely to buy than those who come from Yahoo!igans?"

"How users find Web sites is becoming one of the most important things," Rossetti adds. "There's a part of the site log file, called the referral log, which shows the clickstream of the session. That's vital data because it shows you which types of referral are working and which aren't." If you're not getting hits from a certain search engine, for example, you can lobby that engine to re-index your site on new keywords, he says.

Directory and mail-forwarding portal Bigfoot.com gets most of its customer-tracking information from its advertising engine, which senior administrator and operations manager Augusto Mercado declined to identify for competitive reasons.

"We also analyze site hits and click-throughs, since advertising is a good source of revenue for us," he says.

*Playing for Keeps, page 58*

# PLAYING FOR KEEPS

Continued from page 57

At this point, though, Bigfoot officials are more concerned with keeping their Unix and Windows NT servers running than with gathering additional data about their customers.

"We're using [Freshwater Software Inc.'s] SiteScope to predict capacities and tell us when something's about to fail," Mercado says. "Our Unix servers have uptimes of as long as 18 months; NT servers average about three months, and we have to keep on top of them."

Sometimes, the best Web monitoring tool is the oldest one: direct customer response. "We rely extensively on feedback received through our in-house customer-service department. On occasion, customers have asked us to provide tools or services that we already offer. If a pattern emerges, we immediately focus our teams on improving the usability of that area," Schaefer says.

Once the team has clarified instructions or decluttered a page, "we monitor our traffic systems and customer service to make sure the rate of requests is lower, and the volume of traffic to that page increases," he says.

The following three dot-coms exemplify the wide range of monitoring tools being used by such companies and how much more can be done as sites develop additional tracking expertise:

## Fun Is Serious Business

**Company:** Toysmart.com

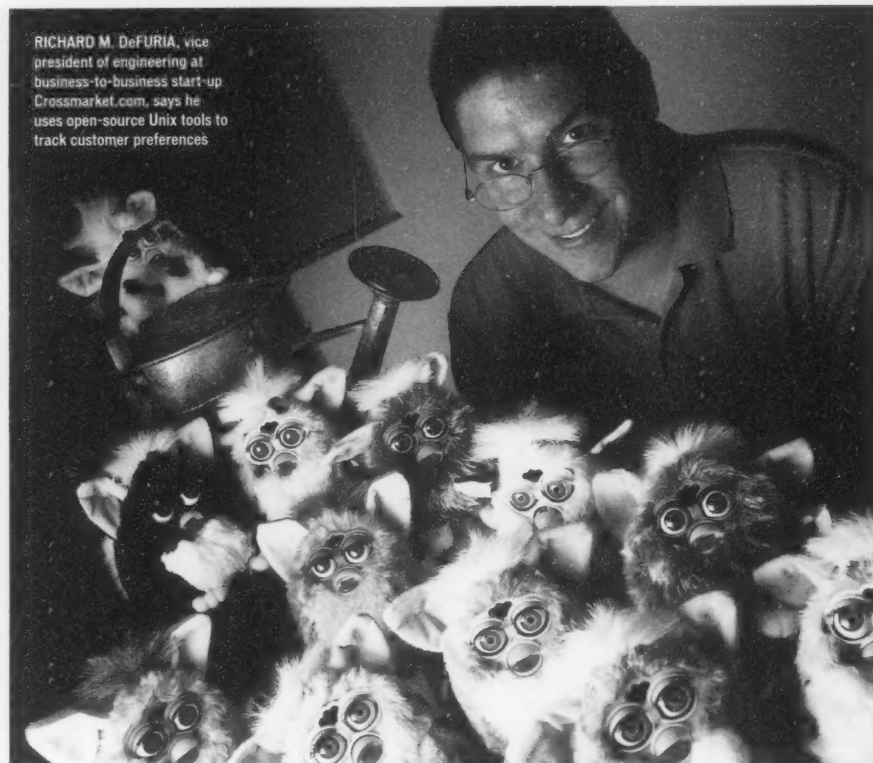
**Web address:** [www.toysmart.com](http://www.toysmart.com)

**Location:** Waltham, Mass.

**Team leaders:** Bela Labovitch, director, Web development; Gabe Fried, e-commerce research manager

**What it watches:** Toysmart.com closely monitors not just the behavior of customers (mostly parents) in its toy-selling community, but also their children, making sure that the toys offered for sale are appropriate to the child's age and skill levels.

**How it watches it:** Toysmart uses predictive behavior modeling and a massive SQL Server database to attack the issues of who buys what, when. It can



RICHARD M. DeFURIA, vice president of engineering at business-to-business start-up Crossmarket.com, says he uses open-source Unix tools to track customer preferences

statistically match predicted behavior to customers in similar circumstances. **How it uses the results:** Toysmart uses the data it collects to create a personalized community for parents.

"The name of the game here is customer acquisition," says Toysmart.com Web director Bela Labovitch. "We work backward, from the bottom line to the top. We discover why a parent bought — or didn't buy — this time, and use that information to make the next sale to someone else."

Toysmart collects data on everything from its visitors' children's ages to the time of day a user grazes its online toy catalog of between 15,000 and 20,000 products. It then applies analysis tools to uncover trends.

Toysmart's predictive buying engine isn't new. Amazon.com uses something similar when it suggests customers check out books that others examining the same title have already purchased. But when coupled with other information — such as navigation paths through the site and the number of tries a parent makes before finding the right toy — it can provide a comfort zone that brick-and-mortar toy superstores can't match.

"Old retail methods simply don't work on the Web," says Toysmart.com e-commerce research manager Gabe

**“**  
**Old retail methods simply don't work on the Web.**

GABE FRIED, E-COMMERCE RESEARCH MANAGER, TOYSMART.COM

Fried. "You not only have to know your customers, you have to know where to find them."

Some of the most valuable information comes from customer entry points. "There's a strong correlation between the choice of search engine and a tendency to buy online. Knowing which engines are most likely to produce sales for us, and the terms parents are most likely to use when querying those portals, lets us conduct some pretty precise search engine campaigns," he says.

But those campaigns, like the rest of Toysmart's sales strategy, rely on customer data for accuracy. "Our biggest goal has to be to get more information

from the consumer," Fried says. "The challenge is balancing the data you want against the pain you're causing your customer."

The company so far hasn't found commercial software that can handle the monitoring tasks it needs and mostly builds its own from a mix of commercial offerings and custom development.

Toysmart.com has bet its entire toy box on Microsoft products: The company is an early adopter of Microsoft SiteServer's e-commerce suite and runs entirely on an NT server farm via outsource hosting service NaviSite. The company's back-end databases are built on SQL Server 7.0 in a Component Object Model-based, n-tier architecture.

Toysmart outsources its Web server performance management, relying on NaviSite to deploy new NT servers when traffic reaches preset levels.

This holiday season, when Toysmart expects to do about 35% of its annual business, Fried will have a live connection to NaviSite and real-time tracking capabilities.

"High-traffic times are great for test marketing. We'll be able to quickly pick a few hundred new customers, give them a special offer and track how well it affects conversion [turning a site visitor into a buyer] in real time," he says.

## Open-Source Detectives

**Company:** Crossmarket.com

**Location:** Medford, Mass.

**Web address:** [www.crossmarket.com](http://www.crossmarket.com)

**Team leader:** Richard M. DeFuria, vice president of engineering

**What it watches:** Crossmarket does basic site log and search term checks.

**How it watches it:** The company uses Analog, a freeware Unix tool, with custom Perl extensions written in-house.

**How it uses the results:** Adds new product categories and reorganizes site offerings based on observed trends.

Start-up Crossmarket.com acts as a middleman between giftware manufacturers such as Towle Silversmiths and American Greetings and small boutiques and gift shops across the U.S. The company offers catalog sales, auctions of excess merchandise and "private auctions," in which a manufacturer puts limited quantities of a product up for bid to a few, qualified customers.

Crossmarket prequalifies retailers and manufacturers via site registration, giving them added data on customers and a way to track buying behavior.

Open-source tracking software like Analog and BigBrother does the rest, says Richard M. DeFuria, Crossmarket's vice president of engineering.

The firm's programmers have extended Analog with Perl5 report-generating tools that they've written themselves.

"Freeware is as good or better than the tracking software you can buy. Performance problems seem to be a big issue with many of the commercial packages we looked at," DeFuria says.

Service provider NaviSite Inc. in Andover, Mass., hosts Crossmarket servers under a co-location agreement.

Its budget-minded tracking has paid off. "We saw a lot of people were searching for the terms *collectibles* and *toys*," he says. "That prompted us to add those categories to our main menu."

Yet as the business grows, Crossmarket.com managers know they'll probably need additional customer monitoring capabilities.

"We're almost to the point that we need a statistician to really tell us what the numbers mean," DeFuria concedes, adding that the company will be investigating methods to increase traffic through better search-engine response.

## Reaching Across the Web

**Company:** Entertainment Boulevard Inc.

**Location:** Los Angeles

**Web address:**

[www.entertainmentblvd.com](http://www.entertainmentblvd.com)

**Team leaders:** Stephen Brown, president and CEO; Michael Schaefer, vice president of Web development

**What it watches:** Everything. The company tracks customer buying behavior, site navigation patterns and viewing patterns extensively.

**How it watches it:** It uses Manna Technologies Inc.'s personalization software to predict customer behavior and react to it in real time.

**How it uses the results:** The server builds dynamic Web pages on the fly according to Manna predictions, offering preference-dependent presentations and products.

One of the leading online streaming-content providers, Entertainment Boulevard got its start presenting popular music videos online and has become one of the leading suppliers of RealNetworks Inc.'s G2 streaming audio and video services. The site serves more than 2,000 videos in a variety of genres and has built its Web tools almost completely in-house, with one exception: customer tracking. There, the company chose Manna's FrontMind for Market-

ing personalization software.

"Manna is the first piece of software we've brought in from the outside," says Stephen Brown, Entertainment Boulevard president and CEO. "It enables us to build marketing strategies that put a different face on the site for a 45-year-old than an 18-year-old." It will become especially useful as the company starts to provide music and video clips to its affiliate partner sites, he says.

The company bases its Web servers in Linux. "If you can find an [administrator] who knows Linux like he wrote it, and we did, it's without question the best cost and performance choice for a high-capacity Web site," asserts Michael Schaefer, vice president of Web development at Entertainment Boulevard.

Before Manna, the company had mostly been using site log analyzers

such as AnaLog, or commercial packages from companies such as WebTrends, to track customer behavior.

"WebTrends mostly supplemented what we were already getting from AnaLog, but we needed to be able to provide highly targeted customers for our advertisers, and we had to work well with affiliate sites," Schaefer says.

Like PHH Vehicle Management Services (see story below), Entertainment Boulevard load-tests its servers to ensure adequate performance. "If we launch a massive ad campaign," Schaefer says, "we need to know we can handle the returns." ■

## MOREONLINE

For information on where to obtain the tools these companies use, and others, please visit [www.computerworld.com/more](http://www.computerworld.com/more)

## ONGOING LOAD TESTING KEEPS SITES RUNNING

A great Web site is a curse as well as a blessing. Once your site becomes indispensable, you'd better offer great performance and guaranteed operation.

Customer tracking becomes a moot point if the site goes down, of course, so site performance monitoring was a higher priority for many of the site managers with whom we spoke. They used a wide variety of tools, from simply "pinging" the home page—sending a signal to a site's IP address and checking for a return response—to automated, around-the-clock testing of page performance and server readiness.

Web-site reliability was critical to PHH Vehicle Management Services' extranet plans. Hunt Valley, Md.-based PHH used load-testing software to ensure its new Web applications were both stable and scalable. But the company continues to run post-deployment load tests as part of an advanced troubleshooting program that has proved remarkably successful.

PHH manages vehicle-lease programs for many Fortune 1,000 companies. The company's IT leaders decided that putting a full range of customer account information online could put information such as vehicle orders, maintenance, driver records and accident reports in the hands of fleet managers, easing support costs for PHH and giving customers more control over expenses.

A large company's fleet of leased vehicles can be the single biggest line-item cost in the corporate budget, so fleet managers have a strong incentive to watch the bottom line, says Mickey Lutz, vice president of information management and technical architecture. PHH's extranet, which became a *Computerworld*/Smithsonian Awards technology excellence laureate last year, has quickly become indispensable. "The site has raised the bar for our customers, and given them the ability to drill down into costs without plowing through a ton of paperwork," Lutz says.

PHH built its site on a Windows NT 4.0 Web server farm, using Allaire Corp.'s ColdFusion for site development and Java to build applications. On the back end, Unix-based Sybase Inc. databases control the massive amounts of information generated by each leased vehicle—one database contains more than 30 million rows of vehicle maintenance data—with mainframe connections to other information.

"This Web site is the face we present to our customers. We knew it would have to go up and stay up from Day 1," Lutz says. So the team composed load tests for the new applications using Mercury Interactive Corp.'s LoadRunner test suite. Starting with about 250 concurrent users, Lutz's group built test scripts that simulated a variety of customer queries

from large and small clients and scaled to about 1,000 concurrent users.

"We watch response times, then keep ramping up by 10 users at a time until we fail to achieve good response times. If that level falls below acceptable thresholds, we see what failed and fix it," Lutz explains.

Tests produced some surprises before deployment. "We discovered we needed roughly 30% more NT servers than calculations indicated. We also found significant problems with our initial [Trusted Information Systems Inc.'s] Gauntlet firewall at peak load that led us to upgrade to a more advanced version," he says.

Recalls Lutz, "We'd initially blamed some intermittent failures on Windows NT that turned out to be repairable application timeouts. They didn't happen often enough on the staging server to track them down, but LoadRunner scaled up so significantly that we could reproduce the error often enough to identify and resolve the trouble."

Lutz says the decision to continue load-testing after the site was launched was a no-brainer. "It's great to do load-testing before deployment, but once the clients are using the site, you don't want them to surprise you [by saying] 'We can get into the site, but we can't do anything.' Just pinging to see if the site's up isn't enough. I don't understand how you can do serious business on the Web without ongoing performance monitoring," he says.

PHH monitors site performance every 15 minutes; it pages the team if response begins to lag. "A slowdown can indicate a potential failure. Noticing it early lets us switch to our alternate pathways before the clients notice there's a problem," he says.

Right now, the site is used by a bit more than 3,000 fleet managers—but the number is growing rapidly. PHH plans to eventually expand it to allow 350,000 drivers as well as fleet managers to access vehicle information. It also plans to provide additional personalization features.

If all goes well, the company says, it will add its growing MasterCard International Inc. business—PHH distributes more than 1 million travel and vehicle-expense credit cards in the U.S. and U.K.—to the extranet as well. That could put a significant strain on scalability. PHH says it will probably migrate the site to Unix, potentially a combination of Sun's Solaris and Netscape's Web environment, Lutz says.

He says the changes will be eased by a new Mercury Interactive Corp. monitoring tool code-named Topaz. Now in beta testing, Topaz provides real-time, end-to-end response times for e-commerce sites and can notify administrators the moment Web application performance crosses a predetermined threshold. Company representatives say Topaz should be available early in the fall.

—Cynthia Morgan

**"A slowdown can indicate a potential failure; noticing it early lets us switch to our alternate pathways before the clients notice there's a problem."**

—Mickey Lutz, vice president, information management, PHH



# 38 Sites That Can Simplify Your Life

BY JAMES CONNOLLY

**F**UNNY THING about the Internet. Every time someone in your office jumps up to proudly announce their discovery of a neat Web site, some know-it-all casts a rain cloud over it by grumping that he could do the same thing through Gopher years ago. Well, the Internet is all about discovery, despite what Mr. I-Don't-Need-A-Browser may say. So we decided to check out some of the spiffy utilities and tools stashed on the Web. Some were new to us, some we were revisiting, some would be useful for an executive's daily chores and some are just plain fun.

We started with a browse through the business portal CEOExpress.com and tried out its Office Tools section. We jumped to other sites through Yahoo Inc. and Netscape Communication Corp.'s Netcenter.

We were in search of simple things: Java applets, online calculators and planners — the little tools that can make life easier. We worked with just a few of the many jumping-off points and portals available to users. For each of these portals and tools, there can be many competi-

tors, but those we tried should provide a decent look at what you can find.

A few key findings emerged.

First, there's a ton of tools out there. Second, although most are good, a lot don't work or are the victims of bad links and poor upkeep. Third, as nice as some of the HTML-based tools may be, there's a growing number of quick and clean real-time Java applets that are doing the same things better and are opening up new possibilities. ■

## Calculators for All

### CALCULATORS ONLINE

Jim Martindale's Calculators On-Line Center is a collection of links to "9,230 calculators created by 1,855 very creative individuals, businesses and tax supported entities worldwide" — as the home page states.

One useful example, at least in the eyes of anyone who has waited in pain as software downloads, is a file download calculator.

Plug in a file size and in a split second see how long it would take to download over your network connection. FYI, 50M bytes over a 14.4K bit/sec. modem would take 8 hours, 53 minutes, 20 seconds. The same file over a T1 line takes 4 minutes, 26 seconds.

■ [www.sci.lib.uci.edu/HSG/RefCalculators.html](http://www.sci.lib.uci.edu/HSG/RefCalculators.html)

**CLOTHING SIZE CONVERTER**  
Outdoor goods retailer Recreational

Equipment Inc. offers this one. Charts show how your sizes translate into international sizes or how your measurements in inches even match up with standard apparel sizes.

■ [www.rei.com/reihtml/help/intsize.html](http://www.rei.com/reihtml/help/intsize.html)

### CURRENCY CONVERTER

A universal currency converter offered by Xenon Laboratories Inc. lets you do back-and-forth conversions for about 90 international currencies. Figure dollars to euros, euros to yens and so on in a blink. Xenon also offers a version of this calculator in a pop-up window and as part of a travel expense calculator.

■ [www.xe.net/ucf/](http://www.xe.net/ucf/)

### MEASUREMENT CONVERTER

Plenty of sites offer limited metric converters, with some that handle area and others that handle volume. Science Made Simple Inc. packages most types of converters. It's quick and simple. Plug in the numbers and see the results.

■ [www.sciencemadesimple.com](http://www.sciencemadesimple.com)

## Countdown 2000

Steffen Thorsen, a student at the Norwegian University of Science and Technology in Trondheim, Norway, posted a series of time calculators at [www.timeanddate.com](http://www.timeanddate.com), including one that figures the time span between two dates and another that figures the time in cities around the world.

Plug in the desired city or dates, and the calculators respond quickly. Of course, the attention-getter is an up-to-the-second look at the time remaining until 2000.

■ [www.timeanddate.com](http://www.timeanddate.com)

## Words and More

### ONLINE REFERENCE

For simple access to a standard dictionary, try the Merriam-Webster Inc. site for a quick response. If you're looking for some of the more obscure or specialized uses of a word, Onelook Dictionaries gives you one-button searching for links to a range of special-purpose dictionaries. Staffers at Bucknell University in Lewisburg, Pa., put together a nice collection of 800 dictionaries in 160 languages.

■ [www.m-w.com/dictionary](http://www.m-w.com/dictionary)  
■ [www.onelook.com](http://www.onelook.com)  
■ [www.facstaff.bucknell.edu/rbeard/diction.html](http://www.facstaff.bucknell.edu/rbeard/diction.html)  
■ [www.encyclopedia.com](http://www.encyclopedia.com)  
■ [www.webopedia.com](http://www.webopedia.com)  
■ [www.thesaurus.com](http://www.thesaurus.com)

### ACRONYM FINDER

There are plenty of acronym explainers out there. Check out Mountain Data Systems' glossary with 96,000-plus entries. Most are in the computer, communications and military sectors.

■ [www.acronymfinder.com](http://www.acronymfinder.com)

### LANGUAGE TRANSLATOR

Translate your correspondence into any of five European languages or convert other languages into English. It's good for simple phrases.

Just for a laugh, do a reverse translation and see how it mutilates your original phrase.

■ [Babelfish.altavista.com](http://Babelfish.altavista.com)

## Juggling Your Finances

There are dozens of online calculators to help you figure loan amortization, how much you can afford to borrow and growth on your investments. A few we found show the breadth of what's available.

Centura Banks Inc.'s formulas are quick and good for simple tasks. Complete Financial Services Inc.'s Money Advisor provides more options — allowing for variable rate loans, for example — but in some cases its calculators are links to other sites, some of which seem to be dead. Finance Center Inc. is great for people who want really detailed reports.

■ [www.centura.com/formulas/whatif.html](http://www.centura.com/formulas/whatif.html)

■ [www.moneyadvisor.com/calc/](http://www.moneyadvisor.com/calc/)

■ [www.financecenterinc.com/products/calclist.html](http://www.financecenterinc.com/products/calclist.html)

### TICKERS

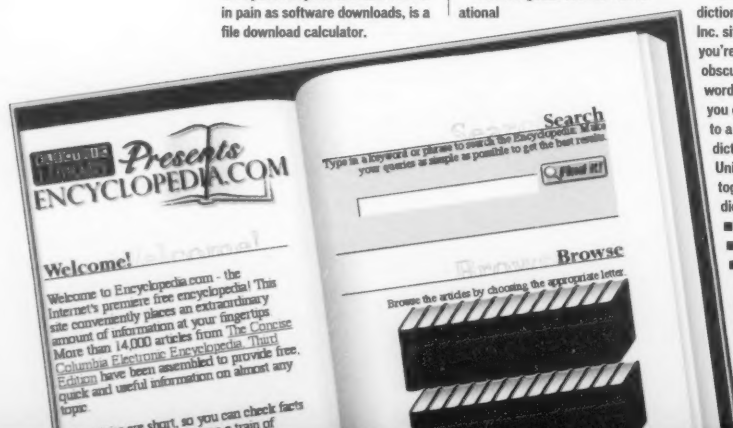
It's now easy to get free, individual quotes and price trends on a 15- to 20-minute delay, as well as market-specific data. Track prices and news about your favorite stocks. Here's a sampling of the many sites:

■ [www.bigcharts.com](http://www.bigcharts.com)  
■ [www.finance.yahoo.com](http://www.finance.yahoo.com)  
■ [www.personalfinance.netscape.com/finance/](http://www.personalfinance.netscape.com/finance/)  
■ [msnbc.com/modules/commerce/investment\\_portal.asp](http://msnbc.com/modules/commerce/investment_portal.asp)  
■ [www.quote.com](http://www.quote.com)

## Meeting Your Maker?

Answer a few simple questions about age, health, lifestyle and family history, and Milwaukee-based Northwestern Mutual Life Insurance Co. will give you an estimate of your life expectancy.

■ [www.northwesternmutual.com/games/longevity](http://www.northwesternmutual.com/games/longevity)



## Where Are They Now?

We all wonder where that old friend, classmate or co-worker ended up. People-finders help you track down those nearly forgotten folks and the nearest pizzeria to meet at once you reach them. Switchboard Inc. is a bit more elaborate than the others.

- [www.switchboard.com](http://www.switchboard.com)
- [www.people.yahoo.com](http://www.people.yahoo.com)
- [www.bigyellow.com](http://www.bigyellow.com)
- [www.anywho.com](http://www.anywho.com)
- [www.555.1212.com](http://www.555.1212.com)

## Travel-Related

### ONLINE MAPS

Online mapping and directions have been available for a while, but if you tried them two years ago, their accuracy was shaky at best—showing streets and lakes in the wrong places and giving some travelers illogical directions.

They've come a long way in terms of quality. The directions still take a few out-of-the-way routes, though, and it would be nice if they told you which town you're in at given points in your travel.

Mapquest has a slight edge in options for planning a route.

- [www.mapquest.com](http://www.mapquest.com)
- [maps.yahoo.com/py/maps.py](http://maps.yahoo.com/py/maps.py)

### FLIGHT FINDERS

If you have to meet someone at the airport and are curious if their flight's on time, check out TheTrip.com Inc.'s flight finder. Although some airline sites offer text-based reports showing estimated time of arrival and current location, this site has a Java-based graphical view that plots the flight on a 3-D map.

If you're wondering about weather problems in your destination or enroute cities, check out Excite Inc.'s weather page.

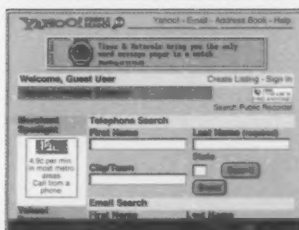
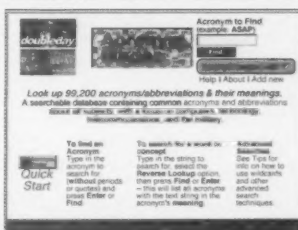
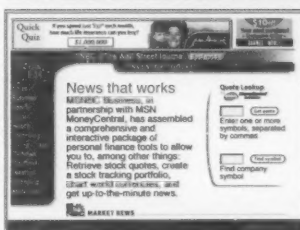
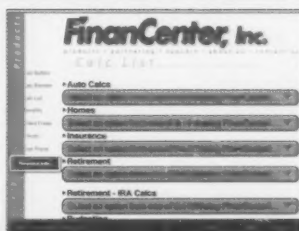
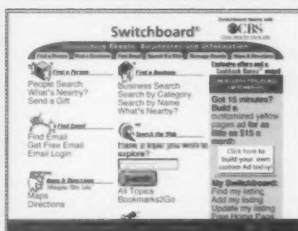
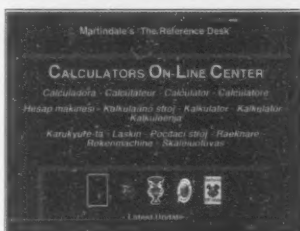
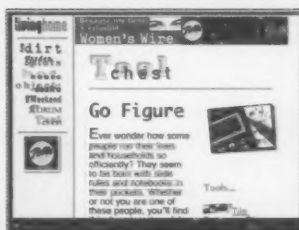
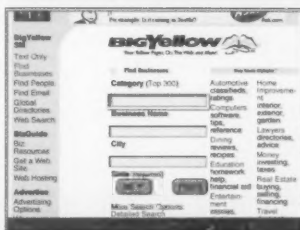
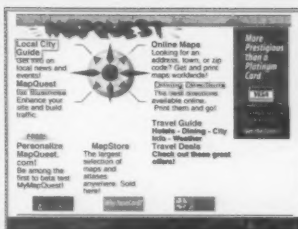
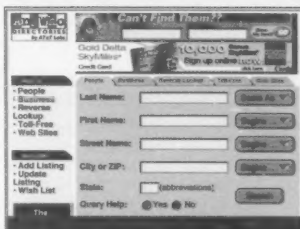
- [www.thetrip.com/usertools/flighttracking/](http://www.thetrip.com/usertools/flighttracking/)
- [www.excite.com/weather/airport\\_delays/](http://www.excite.com/weather/airport_delays/)

### TRAFFIC STATUS

Want to know how the evening drive might go? This site operates in many major cities, offering information on traffic factors such as current average highway speeds, construction delays and road hazards.

It often also works with state and metropolitan transportation agencies, providing information about rail, bus and other mass transit options.

- SmartRoute Systems
- [www.smartroutes.com](http://www.smartroutes.com)



### WEATHER STATUS

There's no shortage of weather services. What's new is that you now can get localized forecasts by entering your town name or ZIP code. A year or so ago, you were lucky to find forecasts for 10 cities per state.

Watch as more sites start to use Java for real-time, albeit limited, weather maps.

- USA Today
- [www.usatoday.com/weather/](http://www.usatoday.com/weather/)
- Weather Channel
- [www.weather.com](http://www.weather.com)
- Accuweather
- [www.accuweather.com](http://www.accuweather.com)

### TRANSIT MAPS

Find the city you're visiting from

among 60 world cities listed. Get an overview of public transportation options, or enter the departure and arrival stations and see a list of stops or a display of stops highlighted on a transit map.

This bare-bones but effective site was put together by the French transit agency RATP.

- [metro.ratp.fr:10001/bin/cities/english](http://metro.ratp.fr:10001/bin/cities/english)

## The Home Front

### MOVING TIME

Will that new job in a new city let you keep living in the style to which you're accustomed?

Plenty of utilities will let you plug in your current salary and then tell you what it will take to match it in other major cities. Home Buyers Fair Inc. guides you through that process and has other tools, such as a wizard for planning a move and finding data on your new city.

- [www2.homefair.com](http://www2.homefair.com)

### FIX-UP TIME

LivingHome.com helps you plan your home improvements right down to buying the paint brush. Select a job such as fencing, flooring, painting or wallpapering, and this calculator will tell you what supplies and tools you'll need.

- [206.145.13.222/livinghome/toolchest/](http://206.145.13.222/livinghome/toolchest/)

# PC Software Transforms The PC

*VisiCalc's release ignites an explosion in the popularity of microcomputers*

BY MARY BRANDEL

**I**F 1977 was the year of the microcomputer, then 1979 was the year of software. That year ushered in the first truly useful personal computer programs, including VisiCalc (the first PC-based electronic spreadsheet, from VisiCorp), Wordstar (a market-leading word processor from MicroPro International Corp.) and WordPerfect (a word processor from WordPerfect Corp. that became the best-selling software in 1986). It was this new class of software that turned the microcomputer from a hobbyist's toy into a business manager's tool.

All of these companies were

two- to three-person start-ups that just had a good idea and a talent for programming. VisiCalc co-developer Dan Bricklin was a 26-year-old Harvard University MBA who got the idea for a financial modeling tool in 1978.

Bricklin saw the microcomputer as a way to automate the time-consuming and tedious recalculations necessary for manual spreadsheets. Mainframe-based systems were available but using them required money, which students and small businesses didn't always have.

Bricklin and another programmer, Bob Frankson, finished VisiCalc — or visible calculator — in late 1979. Its standout feature was automatic recalculation whenever you changed the value of a cell. Plus, it looked like a spreadsheet, with rows and columns you could scroll.

**VISICALC developers:**  
Bob Frankson  
and Dan Bricklin



It was an overnight success. With a \$100 investment, business managers and accountants suddenly had "what-if" capabilities at their fingertips. By simply typing in numbers, they could experiment with financial scenarios and see immediate results. They also got a WYSIWYG interface.

Businesses now had a reason to buy microcomputers. According to some estimates, more than a quarter of the Apple IIs sold in 1979 were to people wanting to get their hands on VisiCalc.

Thanks to VisiCalc, word processing, databases and other programs, the market for PC (what those systems were

eventually called after IBM entered the market with the PC in 1981) software jumped to \$1.6 billion in 1984, from \$140 million in 1981. It was a new world,

with more competitors, established leaders and more powerful programs.

The microcomputer software pioneers don't exist today. After some legal difficulties and the launch of a powerful competitor — Lotus 1-2-3 — VisiCalc was

sold to various companies, including Lotus Development Corp. WordPerfect had a longer reign but was eventually sold to Novell Inc., then to Corel Corp. in Ottawa.

But it was these companies that turned the microcomputer into a business tool.

Ben Rosen, an industry analyst at the time of VisiCalc's debut and now chairman of Compaq Computer Corp., was prescient when he said, "So who knows? VisiCalc could someday become the software tail that wags [and sells] the personal computer dog." ■

## Usenet Uses

BY MARY BRANDEL

The Arpanet is well-known as the network set up by the Department of Defense to be used by researchers with defense contracts to exchange information electronically. But 10 years after the Arpanet (later called the Internet) was born, two graduate students at Duke University in Durham, N.C., invented another communications network, called Usenet.

Usenet used the then-new Unix program UUCP, which enabled Unix-based computers to exchange data over phone lines. At first, the system linked three computers — two at Duke and one at the University of North Carolina.

Usenet was originally intended to disseminate information about Unix by posting messages to readers, who could respond with their own posting. The "conversation" could be read by anyone who subscribed to that newsgroup.

But as more sites joined the network, the range of discussion topics grew. Today, there are tens of thousands of newsgroups, where participants with interests from ferrets to race cars go to talk, argue and commiserate. ■

Brandel is a frequent contributor to Computerworld. Contact her at [marybrandel@norfolk-county.com](mailto:marybrandel@norfolk-county.com).

## 1979

**Microsoft Corp. introduces Basic** for microcomputers, using the 8086 microprocessor.

**Cellular phone tests are done** in Japan and Chicago.

**Kevin MacKenzie sends one of the first emoticons** in a message to **MsgGroup**, suggesting the use of symbols to put some emotion into dry computer text; he uses :-), for tongue-in-cheek.

**Alan Ashton founds WordPerfect Corp.** ■

In development since 1967, the **Stanford Cart** successfully crosses a chair-filled room with-



**out human intervention** in 1979. Hans Moravec rebuilt it in 1977. A television camera mounted on top of the cart took pictures from several angles and relayed them to a computer, which gauged the distance between the cart and obstacles in its path. ►

**The Motorola 68000** exhibits a processing speed far greater than its contemporaries. The high-performance processor found its place in powerful workstations intended for graphics-intensive programs common in engineering.

California Institute of Technology professor **Carver Mead** and Xerox Corp. computer scientist **Lynn Conway** write a manual of chip design, *Introduction to VLSI Systems*. The authors wanted the manual to be an introduction to integrated system architecture for all electrical engineering and computer science students.

**Microsoft moves its offices** from Albuquerque, N.M., to Bellevue, Wash.

**Tandy Corp.'s Radio Shack** announces the **TRS-80 Model II**.

**Apple Computer Inc. introduces the Apple II Plus**, for \$1,195.

**Texas Instruments Inc. introduces the TI-99/4** personal computer.

**The Microsoft 8080 Basic** is the first microprocessor product to win the ICP Million Dollar Award, which was traditionally dominated by mainframes.

**Clive Sinclair** creates Sinclair Research Ltd.

CompuServe begins a service aimed at computer hobbyists called **MicroNET**, offering bulletin boards, databases and games.

**Wayne Ratliff** develops the **Vulcan** database pro-

gram (Ashton-Tate later markets it as dBase II).

**Atari Inc. begins shipping the Atari 400** and Atari 800 personal computers.

**The first Comdex show is held**, in Las Vegas. About 150 companies show products to about 4,000 visitors.

**Alan Shugart** founds **Seagate Technology Inc.** (hard disk maker) in Scotts Valley, Calif. Shugart Associates publishes the Shugart Associates Systems Interface.

The first issue of **COMPUTE!** magazine is published. It's originally a newsletter.

An implementation of Niklaus Wirth's **Modula-2** programming language is completed.

**H. Ross Perot** asks **Bill Gates** about buying **Microsoft Corp.** Gates recalls asking \$6 million to \$15 million. Perot, however, recalls



Gates asking for \$40 million to \$60 million.

**The Three Mile Island nuclear accident** is America's worst commercial nuclear disaster.

**Bob Metcalfe** founds 3Com Corp. ►



**A group of Apple** employees, including Steve Jobs, is given a demo of Xerox Palo Alto Research Center's Alto computer system.

**Atari produces the first coin-operated Asteroids** game machine.

**The Iranian hostage crisis** begins as militants storm the U.S. Embassy in Tehran. Two EDS employees are among the hostages taken. Perot will organize a rescue mission to free the EDS prisoners, smuggling them 550 miles to the Turkish border.

— Compiled by Laura Hunt  
Computerworld's corporate librarian



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# Come on Down, Y'all

Dallas/Fort Worth companies will make IT pros feel at home on the range with diverse and challenging work coupled with very competitive salaries  
By Melanie Menagh



Dallas skyline

**T**HIS PLACE ROCKS. There is just no other way to put it," says Joshua Norrid, director of application development at Bristol Hotels & Resorts.

"There is so much going on in so many different areas, it's virtually impossible not to get together with several colleagues who are working on several really interesting, hot projects," he says of information technology opportunities in the Dallas/Fort Worth, Texas, area — also known as DFW or the Metroplex.

The Metroplex is seeing a boom the likes of which would boggle a jaded J. R. Ewing. The cities have an array of industries, such as telecommunications (MCI WorldCom Inc. and Nortel Inc.), retail (J. C. Penney Co.), transportation (airlines and railroads), oil and gas, consulting firms (Electronic Data Systems Inc.) and high-tech trailblazers (Texas Instruments Inc.).

These industries are all heavily IT-dependent, and virtually every IT and human resources executive is out trolling for talent. The word on the street is, "Come on down, y'all."

"We're hiring," says Greg Blankenship, systems recruiter at Southwest Airlines Co. in Dallas. "We have approximately 55 openings in IT now in a range of jobs, from help desk support to technical services. We also are looking for different levels of programmer/analysts, systems engineers and systems analysts — and even the high-level tech positions."

Norrid said he's looking for

"people with extensive call-center experience, people with project management experience [and] senior-level managers who can handle 15 problems at a time. We have a hard time finding those people."

Likewise, Mike Haefner, senior vice president of human resources at Sabre Inc. (parent company of American Airlines) in Fort Worth, says he's looking for IT professionals "across the board — every skill set, every skill level. You name it, we hire it."

They're singing the same song all over town. Skills in demand include "experienced programmers, experienced [database administrators], experienced systems engineers," says Barbara Cook, director of human resources for the ISS department at Burlington Northern and Santa Fe Railway Co. in Fort Worth. "We're looking for strong object-oriented programming, C++, NT systems engineering, distributed [database administrators] like Oracle; those peo-

ple are extremely hard to find."

Unix, intranet and e-commerce skills are also in demand. The Telecom Corridor along Interstate 75 sucks up a lot of job seekers, but other companies have gone the extra mile to lure candidates and retain employees.

Most Metroplex companies are relaxed, pleasant and employee-oriented. Dress code is business casual, with the emphasis on casual. Many companies have reward programs, with vacations, bonuses and parties for special achievers.

But down to the nitty-gritty: Salaries are highly competitive. "We do studies of the IT market every six months so we can stay competitive salary-wise," says Cleburn Fritz, vice president of IT at Atmos Energy Corp. in Dallas. "The pay scale is changing that fast."

Companies stay on track with signing bonuses, even for college recruits. Generous profit-sharing and stock-buying plans are included.

"You can make a lot of money here. Every employee eligible received big bonuses in profit sharing last year," Blankenship says. "We just had a three-for-two stock split for employees. People are coming here for the long-term benefits."

"Firms around here are very competitive in terms of variable pay strategies," Cook adds. "You see things like piece pay, milestone bonuses, providing bonuses [and] hot-skills pay."

Career development, training and new technologies also keep IT workers' interest piqued. "We touch so many dif-

## JUST THE FACTS

### Dallas/Fort Worth Cross Your Mind?

If you're not from Texas, here are some things you might want to know before relocating there:

#### PROS:

- Major teams and passionate fans: the Stanley Cup (1).
- Do-it-yourself sports: boating, fishing, swimming on nearby lakes and year-round golf on hundreds of courses.
- Cultural diversity: great restaurants, fairs and shopping, as well as first-rate fine and performing arts facilities.
- Cost of living lower than other major metro areas. A nice house/neighborhood: \$130,000.
- Big bonus: no state taxes.

#### CONS:

- The heat.
- Did we mention the heat? 100-plus degrees in the summer.
- Traffic.
- Sprawl: Things are spread out, and it takes a lot of driving to get wherever you're going.
- Flat terrain.

ferent technologies," Haefner says. "We play up the excitement, the growth potential, the many cutting-edge technologies we use to solve problems."

"Training is a big incentive," Fritz says. "We do some cross-training, like Unix people training in the Oracle [database administrator] area and vice versa."

Anyone interested in lassoing a job in DFW can try the usual channels. The big companies, desperate for personnel, use them all. Most are willing to use a headhunter, too.

"It's hard to identify candidates for the key positions," Norrid says. "We've had to use outside placement firms. It raises our cost per hire, but the other routes don't seem to yield results."

The DFW duo are boomtowns with no letup in demand for IT talent in sight. "Dallas is continuing to just grow, grow, grow," Fritz says. "When I first moved here, there wasn't a crane in the air, and now they're like a forest, with buildings going up everywhere. I get more phone calls for jobs than all the other officers put together."

Menagh is a freelance writer in Maple Corner, Vt.

## Ponying Up in Dallas

Average salaries, as reported by hiring managers in Dallas

SOURCE: COMPUTERWORLD'S 1999 MIDYEAR SALARY SURVEY

TITLE	BY EXPERIENCE LEVEL		
	1-2 YRS.	3-4 YRS.	4+ YRS.
Network administrator/analyst	\$48K	\$53K	\$58K
LAN manager	\$47K	\$60K	\$61K
Project manager, systems and programming	\$58K	\$69K	\$69K
Senior systems analyst	\$54K	\$64K	\$67K
Senior systems programmer	\$58K	\$62K	\$68K
Senior programmer/analyst	\$52K	\$56K	\$64K
Programmer/analyst	\$42K	\$47K	\$56K



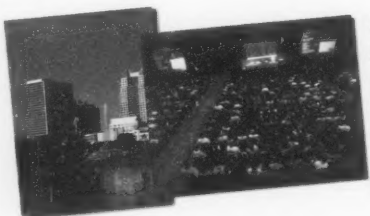
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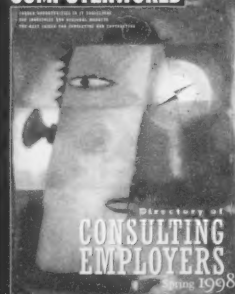
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Software Engs. needed to develop & modify postscript testcases (including Genoa P523, Comprehensive Emulation Test (CET), Bi-directional Postscript, multi-mode Appl. Test Suite (ATS), subsets, error handling, & 1200 dpi testcases) to test new printer firmware: dev. new Java & HTML test solutions; investigate Postscript problems; log & track problems. Perf. other rel. duties. Sal. @ \$48,880/yr.; O/T @ \$35.25/hr.; Req's travel & M.S. or equiv. in Comp. Sci. or rel. field. Send resumes to Jennifer Hansson, Aerotek/Maxim Group, Inc., 7301 Parkway Dr., Hanover, MD 21076. ID Ref. # NLY99-75843.

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- 8:30am **General Session:  
SOURCING TECHNIQUES**  
Cathy Peterson, Romac International
- 10:00am **Sponsor Showcase/Coffee Break**
- 10:45am **General Session:  
SILENT IMPACT: THE BASIC  
TENETS OF STAFFING & BOTTOM  
LINE EFFECTS**  
Dan Hanyzewski, Mastech Corp.
- 12:00pm **Luncheon Keynote**
- 1:30pm **General Session:  
DEFENDING THE FORT,  
RETENTION TECHNIQUES**  
Joe Andrews, Progress Software
- 2:45pm **Sponsor Showcase/Coffee Break**
- 3:30pm **General Session:  
CUTTING EDGE TOOLS FOR THE  
INTERNET RECRUITER**  
Dr. Bret Hollander, NETRECRUITER
- 5:00pm **Program ends**

### CONFERENCE REGISTRATION FEE\*

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\* Registration fee includes continental breakfast, lunch, breaks and the complete Conference Resource Guide.

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Cathy Peterson, Romac International

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Dan Hanyzewski, Mastech Corp.

The recruitment organization has a silent but profound impact on the success, or lack thereof, on a corporation's financial performance. So how does the staffing department - a cost center - drive a P&L mentality? Find out more in this key session.



#### Defending the Fort, Retention Techniques

Joe Andrews, Progress Software

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#### Cutting Edge Tools for the Internet Recruiter

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**Applicants send resume to:**  
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**Systems Analyst needed** F/T by IT Co. in Mahwah, NJ. Must have Masters degree and 2 yrs exp analyzing, design, dvlpng & implemt C/S systems using PowerBuilder 4.0, Oracle 7.x, Sybase 10, Win NT, C & UNIX. Respond by resume to: HR Dept, Sigma Systems, Inc. 2216 Lancaster Ct, Mahwah, NJ 07430.

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**IT Project Manager** wanted by Sware Dvlpmt & Consulting Co. in Alexandria, VA. Must have Bach in Comp Sci, Engg or equiv and 8 yrs exp managing all activities throughout client life cycle using IBM middleware/Sware & ERP Systems. Knowledge in developing strategies and plans to satisfy client requirements. Experience networking with business partners and vendors in order to assist with sales and marketing of company's products, solutions and services. Respond to: HR Dept, Computer Systems Management, Inc. 205 S. Whiting St., Ste 201, Alexandria, VA 22304.

**Software Engineer** wanted F/T by Energy Mgmt Systems Mfr in Andover, MA. Must have MS in Comp Sci and 1 yr software experience. Respond to: Andover Controls Corp., Attn: Pat Sanders - HR Director, 300 Brickstone Square, Andover, MA 01810.

**Web Developer** needed by Computer Sware Co. in Natick, MA. Must have Bach degree and 2 yrs IT experience. Respond by resume to: Service-soft Technologies, Inc., Attn: Jaqueline Hicks - HR Mgr, Two Apple Hill Dr, Natick, MA 01760.

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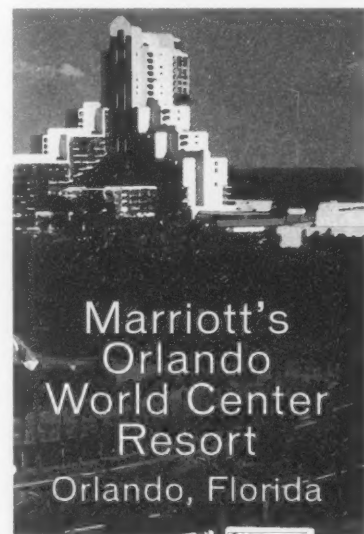
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Shared Medical Systems	9.7	Lycos Inc.	-12.8
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SGS-Thomson Microelectronics	5.69	Veritas Software Corp.	-6.00
Shared Medical Systems	5.25	Legato Systems Inc.	-5.88
Texas Instruments Inc.	4.81	PSI Net Inc.	-5.50

## Tibco Looks Strong, Despite Falling Price

Analysts predict software company will rebound

BY DAVID ORENSTEIN

**T**IBCO SOFTWARE INC.'S (Nasdaq:TIBX) initial public offering (IPO) two weeks ago took off like gangbusters, though the company's stock price has since tempered. But wild IPO-related swings aside, technology analysts say the company has a strong offering of application integration middleware that customers are already buying.

"Tibco is a longtime solid performer that is very well-known in its market," says Martin Marshall, an analyst at Zona Research Inc. in Redwood City, Calif. "Their time has come."

Tibco is one of the oldest companies offering messaging middleware, which shuttles data from application to application in a corporate network, independently of the platforms the applications are on or the protocols on the network. Distributed and multitier Internet applications can benefit from such tools,

which are also offered by other companies including IBM.

Marshall said Tibco is considered a market leader, and out of the gate Wall Street agreed. Tibco's IPO price of \$15 per share rose to \$41.37 before the end of its first week. Two weeks later, however, the stock was down to about \$24, a plummet Marshall dismissed as the result of short-term investors collecting profits off the initial rise. Tibco will rise again on its fundamentals, he said.

Not all analysts were as rosy about its ability to rebound, however. Highlands, N.J.-based IPOMaven.com panned the stock with its lowest investment rating of 5, where 1 would be best. In a July 13 report, analyst Manish Shah noted that as much as 11% of Tibco's revenue in any given quarter can come from only one customer. The company has also been losing money every year since at least 1994.

But even if Tibco depends heavily on one customer or another in any given quarter, overall, it has deeply penetrated the corporate information technology market and won many substantial accounts, noted analyst Jeanine Fournier at Aberdeen Group Inc. in Boston.

In a report earlier this year, Fournier characterized Tibco as "a rapidly growing but stable supplier with significant representation in Fortune 1,000 companies such as 3Com [Corp.], Motorola [Inc.], IBM Amro, Merrill Lynch & Co. and J.P. Morgan [& Co.]."

DATE	WEEK	CHANGE	WEEK	CHANGE
2/99	7/26	7/27	7/28	7/29
SOFTWARE OFF -0.5%				
ADBE	53.62	23.62	Adobe Systems Inc.	46.38 0.38 0.4
APPL	31.00	6.12	Apple Computer Inc.	11.56 -0.56 4.6
ADSK	49.43	21.62	Autodesk Inc.	26.25 0.19 0.7
AVST	38.87	11.06	Avaya Technology	13.38 0.25 1.9
BURL	49.50	6.12	Business Objects S.A.	45.13 1.49 4.0
CAN	36.00	10.19	Cadence Design Systems (L)	19.19 -0.56 2.2
CRV	44.00	6.68	CSI Group Inc.	27.81 1.48 5.3
CHFT	61.31	10.87	Checkpoint Software Tech (H)	65.38 0.75 1.2
CTIS	55.25	23.12	Citrix Systems Inc.	51.56 1.94 3.9
CSUN	28.12	14.75	Cybernet	21.25 1.00 4.5
CA	58.00	26.00	Computer Associates Intern'l	46.31 1.19 2.5
CPWR	40.00	16.37	Compuserve Corp.	27.06 0.50 1.9
DCRM	54.12	9.37	Documentum	14.56 1.06 6.8
EFB	60.37	13.50	Electronics For Imaging	55.75 0.75 1.3
HTC	45.62	13.75	Hmc Software	50.26 0.63 1.7
ITC	35.75	19.43	IBM Systems	23.81 1.25 5.7
IFMX	14.50	3.50	Informa Software Inc.	7.50 0.31 4.0
INTL	11.75	34.16	Intel	82.00 -0.31 0.4
JPRV	50.00	24.43	Jack Henry Associates	42.88 1.48 4.6
JDEC	49.50	10.87	J.D. Edwards & Co.	15.06 1.31 8.0
LIDS	87.81	27.50	Legato Systems Inc.	72.88 0.88 1.2
MCR	51.25	12.31	Macrovision Inc.	34.56 3.81 9.4
MANU	24.50	5.25	Manugistics Int'l Inc.	12.84 0.81 5.9
MAT	43.43	20.12	Matrox International	10.26 0.50 5.2
MSFT	100.25	43.67	Microsoft Corp.	86.63 -4.09 4.4
NTIA	67.68	10.08	Network Associates	57.19 1.31 2.3
NSC	45.00	30.37	Network General	50.84 2.00 3.5
NVL	61.00	8.50	Norvell Inc.	25.69 0.84 3.3
ORCL	41.18	12.25	Oracle Corp.	37.24 0.21 0.5
PAR	27.25	8.50	Paratek Technology Corp.	14.00 0.20 1.4
PGFI	50.00	10.50	Postflight Inc.	13.63 0.25 1.9
PIR	53.75	27.50	Pirtek	38.25 0.81 2.0
RAIL	40.00	10.10	Rail Software Corp.	36.58 1.69 4.9
SAP	60.12	23.75	SAP AG	36.56 2.43 7.7
SCUR	26.00	2.25	Secure Computing Corp.	2.94 0.38 13.3
STR	43.43	20.12	StrongStitch Commerce Inc.	26.88 0.88 3.3
SW	30.02	18.56	Shutterstock Inc.	24.38 0.33 1.3
SDRC	23.43	7.50	Structural Dynamics Research	17.81 1.50 7.8
SYMS	75.37	4.50	Symantec Corp.	10.00 0.50 5.0
SYMC	32.25	8.88	Symantec Corp.	30.23 1.19 4.1
SMPS	23.25	24.50	Saturn	58.75 1.81 3.2
TRG	74.75	7.81	Systems & Computer Technology	74.75 1.81 2.4
BAANI	41.00	6.87	The Bank Co. N.Y.	13.25 0.50 3.6
VNTV	18.81	5.00	The Venture Corp.	9.50 0.25 2.7
TAL	51.00	26.00	Terra Sys. Arch.	35.50 1.88 5.8
VRTS	63.43	11.87	Veritas Software Corp.	53.02 4.00 7.5
WIND	34.43	11.25	Wind River Systems	14.88 0.06 0.4

DATE	WEEK	CHANGE	WEEK	CHANGE
2/99	7/26	7/27	7/28	7/29
TELECOMMUNICATIONS CARRIERS OFF -0.4%				
AT	75.00	38.25	Attel Corp. (PL)	71.38 -0.94 1.3
AIT	77.25	43.37	American Tel.	72.38 1.25 1.7
ANGW	22.87	10.37	Andrew Corp.	19.88 1.94 9.9
ATL	64.12	32.25	AT&T	64.12 0.25 0.4
BCE	52.68	28.62	BCE Inc.	40.88 2.38 5.0
BEL	66.93	49.43	Bell Atlantic	64.31 1.50 2.3
BLS	50.00	22.12	BellSouth Corp.	47.63 0.68 1.4
CSX	26.50	8.50	Comcast Net Inc.	21.38 0.56 2.6
CMCSA	42.56	18.61	Comcast	38.63 0.00 0.0
COX	44.43	20.75	Cox Communications Inc.	36.69 1.69 4.4
GSTRF	33.00	6.31	Globalstar Telecom. Ltd.	25.81 5.44 21.4
GOV	60.12	23.75	Gov. Corp.	46.36 1.48 3.2
NTEL	56.13	25.37	Northern Telecom	54.00 2.91 5.7
SPR	53.62	23.75	Spinnaker	50.00 0.87 1.7
SCM	60.12	23.75	Sprint Corp.	54.00 0.87 1.7
SBC	58.93	35.00	SBC Communications	56.56 0.58 1.0
VON	34.73	27.18	Sprint Corp.	31.06 0.18 0.4
TEL	51.00	30.62	Telecom and Data Systems	74.38 1.88 2.5
USW	66.00	40.00	US West	57.06 0.50 0.9
VIA	48.75	24.62	Viacom	42.13 1.84 4.3
WDC	64.43	30.00	Worldwide Communications Inc.	54.13 1.44 2.6
WCLM	36.75	39.00	MCI Worldcom Inc.	82.88 3.94 4.5

DATE	WEEK	CHANGE	WEEK	CHANGE
2/99	7/26	7/27	7/28	7/29
SERVICES OFF -4.0%				
ACRM	31.25	16.50	Arcam Corp.	26.81 0.83 3.1
ACS	53.00	22.37	Alcatel Computer Servs.	46.84 2.76 5.9
AMV	40.25	19.75	American Mag. Systems	29.25 2.78 9.5
AMT	39.75	19.75	Automatic Data Processing	38.06 2.99 7.7
BOTS	60.87	26.37	Borg Group Inc.	54.50 2.45 4.5
CATP	49.15	10.62	Cambridge Technology Pkts	47.06 0.94 2.0
CEN	40.50	24.00	Centel	27.88 0.75 1.1
CNR	26.62	13.81	Cable One Inc.	17.56 0.25 1.4
COR	39.87	10.75	Comdisco	24.38 1.13 4.4
CHW	37.87	8.25	Computer Horizons Corp.	12.88 0.50 3.9
CSC	74.87	26.75	Computer Sciences	64.38 5.27 7.6
USI	75.25	34.00	Dnt Systems Inc.	66.31 0.81 1.2
ES	67.62	30.43	Electronic Data Systems	63.75 3.13 4.9
FDC	51.00	19.88	First Data Group (PL)	49.44 1.44 3.0
FISV	40.75	24.62	Fraser	30.13 2.68 8.2
FPL	26.75	24.38	Fraser	26.75 0.25 0.9
KEA	58.25	17.75	Kearse	33.13 1.69 5.8
NDC	55.25	26.18	National Data	41.63 3.56 7.9
PRP	26.75	24.38	Pacheco Inc.	26.81 0.26 0.8
REDI	18.50	4.00	Reinsurance Worldwide	6.56 0.68 10.6
REY	25.13	12.62	Reynolds & Reynolds (H)	23.75 1.81 7.7
SAT	103.00	39.62	Safeguard Scientifics	84.39 1.38 1.6
SARE	62.87	24.49	Sageant Corp.	55.63 1.75 3.1
SMS	78.06	40.06	Shared Medical Systems	59.63 5.25 8.7
SIS	41.93	21.66	Surgent Data Systems	26.56 1.00 3.4
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DATE	WEEK	CHANGE	WEEK	CHANGE
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COMS	31.12	20.00	3Com Corp.	24.00 0.84 3.8
AUTC	53.83	19.75	ADC Telecommunications Inc.	45.25 2.18 5.1
ANIC	42.43	11.00	Annic	40.00 3.38 8.6
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EMCY	14.52	15.00	EMC Corporation	32.14 0.63 1.9
UN	79.75	26.00	Lucent Technologies	65.56 1.81 2.7
MDR	5.25	1.25	Marq Networks	2.75 0.25 9.1
NCDI	8.50	4.25	Network Computing Dev.	5.13 0.31 6.5
RWR	17.00	7.31	Network Equipment Tech.	9.75 0.06 0.6
NR	39.37	29.50	Northern Telecom	26.56 1.00 3.4
NOR	89.37	29.50	Northern Telecom	85.06 2.75 3.1
NT	84.12	26.81	Northern Telecom Ltd.	88.50 2.61 3.3
NR	16.75	6.89	Paragon Technologies Inc.	8.16 0.69 8.0
PCTI	11.00	4.37	Protektor	6.00 0.13 2.0
SFA	41.25	11.75	Scientific Atlanta	38.00 2.38 6.2

DATE	WEEK	CHANGE	WEEK	CHANGE
2/99	7/26	7/27	7/28	7/29
SEMICONDUCTORS, CMPS & EQUIPMENT UP 3.2%				
ADPT	42.87	7.87	Adaptec	38.56 0.50 1.3
AMD	33.00	9.31	Advanced Micro Devices	17.06 0.75 4.6
ALTR	46.87	14.56	Altera	36.38 1.56 4.1
ADI	50.00	12.00	Analog Devices	42.25 0.39 0.4
AMAT	79.93	25.56	Applied Materials	72.25 2.19 3.1
ASML	69.62	12.93	ASML Lithography Holding	59.88 2.10 3.7
HIS	41.56	27.31	Heavycor	35.19 0.31 0.9
INTC	71.87	34.87	Intel Corp.	69.75 1.19 9.7
KLAC	73.06	20.75	Kla Instruments	67.66 2.56 3.4
LLTC	75.75	16.56	Linear Technology	61.93 2.06 3.1
LSI	53.62	10.50	LSI Logic	50.00 0.19 0.4
WUM	73.50	27.31	Worm Integrated Products	63.56 2.36 4.2
MU	65.36	23.75	Murphy Technology	60.38 1.48 2.1
MUT	100.18	38.37	Mutual	93.56 1.06 1.1
NOM	29.18	7.43	National Semiconductor	24.44 0.56 2.3
OW	78.62	17.83	Omni Microsystems	70.76 0.64 0.6
SLR	73.25	19.37	Siliconix Corp.	64.25 0.50 0.8
TCR	85.56	15.00	Targis (H)	77.31 1.19 4.1
TAN	105.17	45.37	Tanaka Instruments Inc.	144.00 1.81 1.5
JDSU	88.87	16.62	Uniphase Inc.	85.31 0.81 1.0
VTS	73.87	17.75	Vitesse Semiconductor Corp.	63.44 2.63 4.0
ALNA	65.27	14.87	Altera	62.12 0.41 0.6

COMPUTER SYSTEMS OFF -0.2%				
DATE	WEEK	CHANGE	WEEK	CHANGE
2/99	7/26	7/27	7/28	7/29
AAPL	56.75	28.50	Apple Computer Inc.	55.75 2.81 5.3
EPN	52.31	1.62	Epix Corp.	9.56 0.13 1.3
CPN	50.25	20.00	Compaq	24.00 0.20 0.8
DIG	29.81	7.00	Data General	13.69 0.50 3.6
DELL	55.00	25.37	Dell Computer Corp.	49.76 1.19 2.3
UTW	84.50	36.52	Unisys 2000 Inc.	77.38 3.84 4.9
HWP	118.43	47.06	Heavycor	105.25 3.00 2.8
HTI	109.93	40.18	Hewlett-Packard	124.00 0.18 0.1
IBM	129.18	55.37	IBM	124.00 0.18 0.1
MUT	100.18	38.37	Mutual	93.56 1.06 1.1
MOT	100.18	38.37	Mutual	93.56 1.06 1.1
NATI	48.25	17.50	National Instruments Corp. (H)	45.00 1.20 2.3
NCR	55.75	23.50	NCR	46.88 1.06 2.2
NORV	61.75	11.00	Norvis	72.25 4.25 5.9
PRGM	33.25	3.43	Procom Tech Inc.	7.83 1.13 14.4
SGNT	1		Sequent Systems Inc.	10.00 0.00 0.0
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BELLTELEPHONIC ONLINE	14	DELTA AIR LINES INC.	8	ASSOCIATION OF AMERICA	37	INFORMAS CORP.	46	SIBEL SYSTEMS INC.	25	VADEM INC.	52
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BLOCK & BLOCKER CORP.	34	DEUTSCHE BANK ALEX. BROWN	20	INSITE SERVICES LLC	14	NETMARKETING.COM	56	SMITHKLINE BEECHAM	25	VANTAGE CORP.	52
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BUREAU OF LABOR STATISTICS	46	EBAY INC.	24/27/28	IPACOM.COM	75	NORTH FORD FUND INC.	47	STANFORD COMMUNICATIONS INC.	52	WHIRELESS KNOWLEDGE LLC	52
BURTON BAKER INC.	54	EDUCATION	14	J.D. EDWARDS INC.	75	INSURANCE CO.	60	STENWAY MULLIGAN INSTRUMENTS INC.	37	WHIRELESS KNOWLEDGE LLC	52
BURNSTON-NORTH AND SANTA FE RAILWAY CO	66	ELECTRONIC DATA SYSTEMS	51	JPMORGAN & CO.	75	NORDEANIAN UNIVERSITY OF SCIENCE	54	STETON TECHNOLOGY GROUP INC.	52	XCAR.E.NET	21
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C-BIOSIDE INTERNATIONAL SOLUTIONS	32	AT&T	21/24/65	K. HOSANIAN MORTGAGE INC.	33	NOVELL INC.	8/54/55	SUNTER CORRECTIONAL INSTITUTE	42	YAHOO INC.	27/54/56/60
CARDINAL HEALTH INC.	46	EMC CORP.	14/78	KINGS COM LLC	1	INFO.COM RESEARCH	38	SUN Microsystems	52	ZION RESEARCH INC.	37
		ELC CORP.	14/78	KEWILL SYSTEMS LLC	1	INFO.COM COMPUTER LIBRARY CENTER	52		14/4/21/27/51/52/56		

## Allchin Speaks: Trade-Offs, Bugs and Win 2K

BY SHARON GAUDIN  
REDMOND, WASH.

Jim Allchin, whose job is to get Windows 2000 out the door at Microsoft Corp., sat down with *Computerworld* last week and talked about the trade-offs Microsoft made in developing Windows 2000, migration issues and plans for developing a full-service directory.

**Q: A lot of analysts are advising clients not to migrate to Win 2000 until one or two service packs are released. Are you expecting orders will be slow in the first six months?**  
A: We're not looking at a service pack any time soon. You can look at the initial release of Windows 2000 as more reliable than NT 4.0 with any service pack, even the most current one. [RCI] of Windows 2000 can handle more stress than anything NT can take. ... I think [analysts] are doing a disservice to their clients. They're putting up with reboots and other weirdness, and they don't have to.

**Q: You've talked quite a bit about weighing increasing reliability with compatibility between NT 4.0 and**

**Windows 2000. Did you sacrifice compatibility for reliability?**  
A: Reliability is one of the core problems we haven't been hardcore about. And with Windows 2000, I'm trying to be. ... We're still struggling with it. It's a hard trade-off, but

corporate people say [sacrificing compatibility for stability is] the right thing.

**Q: What are some of the things you've done to increase reliability?**

A: We've really attacked the issue of rebooting. There will be significantly less of that. ... And we're going to vendors and saying, "You've got a problem with leaking memory, and you've got to fix it." Leaking memory and drivers are a big problem. And when an application crashes because it's got problems, we're still blamed. ... We're getting drivers tested and certified.

**Q: Corporate users have told us they're concerned about the num-**



JIM ALLCHIN, Microsoft vice president

**ber of migration tools they'll need, adding to costs and complexity.**

A: People do not have to buy additional tools unless they want to. Everything needed will be available with the purchase price. We have some tools coming. If it's not on the CD, they can get it on the Web. We will have as few tools as possible. I don't like lots of tools.

**Q: What changes did you make after the release of Beta 3?**

A: We tweaked the user interface, and we're trying to get as many drivers on as possible. And it's just been bugs, bugs, bugs. ... Between Beta 3 and RCI, we fixed 11,000 bugs.

**Q: Will you offer users a new pricing package for Windows 2000?**

A: We've improved the packaging. We think we're final at this point on pricing and packaging. We did an analyst's tour, looking for feedback. We tweaked it a little bit. We'll be talking about it fairly soon. ▀

Continued from page 1

## Compaq to Lay Off 8,000

announcing aggressive steps, but they remain suspicious — and worried about Compaq's future.

"The layoffs are probably about the right amount for now," said Tony Ioele, president of the Digital Equipment Computer User Society and operations director of an Internet division at a large New York bank. But he said he was troubled that Compaq didn't reveal where the cuts will be made.

"They need to make their hard decisions and move on, and not take six months to get it over with," he added.

### Worldwide Cutbacks

Capellas promised more details later regarding where cuts will be made, saying only that 6,000 to 8,000 jobs of 70,000 total would be eliminated globally, the majority by year's end, with some unnamed facility closings. That's in addition to the 17,000 job cuts announced last year after the \$10 billion Digital purchase [News, April 19, 1998], of which 15,250 have been made.

Compaq ended the second quarter \$184 million in the red, or 10 cents a share, on global revenue of \$9.4 billion, up 17% over the second quarter of 1998.

Despite many positives, Capellas said he was "disappointed" at a 6% increase in revenue from services, a key area of emphasis since the company bought Digital. Dropping PC prices also cut into profits.

That services increase is only about one-third of the industry average, analysts said. Compaq is facing problems getting the "remnants of Digital to perform up to speed," said Fred Dickson, an analyst at Branch, Cabell & Co. in Richmond, Va.

Analysts are predicting a third-quarter profit of \$68 million, or five cents a share, on \$9 billion in revenue. But Ashok Kumar, an analyst at Piper Jaffray Inc. in Menlo Park, Calif., said the profit could be accounted for through Compaq's use of a \$1 billion reserve. "They can fiddle with the numbers, but people want sustained growth based on revenues," Kumar said.

### \$2B in Reductions

Capellas is seeking a \$2 billion reduction in annual operating expenses, of which \$700 million will come from job reductions.

Operating expenses account for 23% of sales at Compaq, double the percentage for Dell Computer Corp. in Round Rock, Texas, Kumar said.

Job cuts and reducing expenses aside, observers said Capellas faces the dilemma of running a company that is really at least two companies: one that has traditionally sold PCs and another that sells high-end servers and services to corporate customers.

Ioele said knowing where the cuts will be made is important because of the need for keeping sales and service levels high enough to meet customers' needs. ▀

Continued from page 1

## Win 2000

optimal use of Windows 2000.

To be certified for the new operating system, an application has to conform to the Application Specification for Windows 2000 released last month. Some users said that effort will have to be reserved only for the most deserving applications.

To improve the performance of critical server-side Component Object Model components, overhauling the code to make it meet that specification might make sense, Ritchie said. But it might still be cheaper to forgo new features and go for added performance by adding or upgrading hardware, he said.

Even at Pfizer Inc. in New

York, which faces strict federal oversight of applications that involve clinical pharmaceutical data, the cost of rewriting applications is huge — and therefore not in the cards for most applications, said Matthew Parsons, an information technology coordinator.

### Value for New Apps

But where new applications or major upgrades are already planned, Pfizer will take advantage of the opportunity to incorporate the improved application management capabilities of Windows Installer and the unified management of user privileges and passwords in Active Directory, Parsons said. Pfizer also sees value in matching applications to the specification to make them self-healing, or able to replace missing or damaged files automatically.

### Certifiable

Microsoft's application specification for Windows 2000 requires that many applications:

- Have a self-repairing installation
- Maintain preferences for roaming users, regardless of workstation
- Support OnNow power management for a better mobile computing experience
- Provide secure access to resources and security for client/server interactions
- Reduce service downtime by exploiting cluster services

SOURCE: MICROSOFT CORP., REDMOND, WASH.

But the commitment to rewriting and testing still is a matter of priorities, said Matthew Nordan, an analyst at Forrester Research Inc. in Cambridge, Mass. Rewriting Windows applications for optimal functionality will be a

great benefit only for companies building their entire infrastructure on Windows 2000, he said. Companies that expect to have heterogeneous environments may find little bang for the considerable bucks they would devote to Windows application overhauls.

Because the Nasdaq-Amex Market Group in Gaithersburg, Md., is betting much of its infrastructure on Windows 2000, "anything we've started this year, we've tried to build to the best of our knowledge to the technology advancements in Windows 2000," said Ann Neidenbach, systems engineering vice president.

But Neidenbach said Windows 2000 certification for most applications already in production will remain more of an ideal than a reality. "It's something we would aspire to," she said. ▀



FRANK HAYES/FRANKLY SPEAKING

# Heat mirage

**M**AYBE IT'S THE HEAT. But when I hear that Microsoft is now in the hacking business, I keep seeing visions of what these poseurs would be like as real hackers. Maybe Steve Ballmer would start calling himself Sir Defyable, and Bill Gates could adopt the nom-de-hack of OldDogTrey. Maybe a crew from Redmond would show up at the DefCon hacker's convention next summer calling itself the Cult of the Dead Horse. Maybe — but I doubt it.

Chalk it up to weird hallucinations at the end of the millennium, or maybe just unlikely mirages in the midst of a heat wave. But somehow, the strangest images from all corners of the industry keep appearing in the midst of this long, hot summer.

Microsoft, for example, has tricked itself out as what it thinks a hacker looks like. After all, there's now apparently a group of Microsoft programmers whose full-time task is to hack into America Online's Instant Messenger service, so Microsoft's MSN Messenger users can chat online with AOL Instant Messenger users. (It's not working, of course, because AOL keeps closing the holes every time the Microsofties worm their way in.)

Sound like a waste of time? Sure. Even more of a waste of time are Microsoft's protestations that it's all about interoperability, open interfaces and Mom's apple pie.

What it's really about, as usual, is controlling the universe. Microsoft wants to hijack what AOL's got: a solid grip on the lion's share of the instant messaging business. There's money to be made — from advertising, from future services — but only if you've got the users. AOL does. Microsoft doesn't.

Microsoft could cooperate with AOL — and shell out for a licensing deal. But for Microsoft, it's not the money, it's the principle of the thing: A signed agreement might make it harder to grab AOL users in the future. So Microsoft just keeps trying to dress like a hacker.

And it's not just Microsoft. These days Compaq looks like the industry's cranky old grampa trying to chase the neighborhood kids off the lawn. Compaq is suing low-cost PC maker e-machines for patent infringement. Well, that's what the lawsuit says, anyway.

What Compaq really wants to do is to run cheapo vendors out of the PC business. After all, it's those \$599/\$499/\$399 guys who are pushing prices down, wiping out Compaq's profit margins and strangling the onetime king of the PC hill.

But Compaq is living in the past. Running off e-machines won't bring back the good ol' days of high prices and fat margins — any other maker of cheap PCs can do what e-machines has done. And unless Compaq gets a lot more spry, those kids will always outrun the old geezer.

And isn't that IBM — hair slicked back, sharkskin suit, looking for all the world like a car salesman — hawking its new high-end storage server? IBM knows the new server, code-named "Shark," isn't the hot model customers want. Those features long-promised by IBM — virtual disk capability, flash copy, dual air bags — won't be in the showroom until next year.

But when you can't sell the good stuff, you push what's on the lot. Too bad that means customers who trust the smiling salesman won't end up with exactly what they'd hoped to get. But hey, at Honest Lou's, you'll drive away happy — whether you like it or not.

And has Oracle Exchange, the database vendor's commerce community, really turned Larry Ellison into a shopping-mall developer? Could hapless PeopleSoft, beset by plummeting profits, really be a panhandler on the street? Could Baan, whose sales cratered by 25% in the last quarter, show up as that guy at the stop light who washes your windshield hoping you'll toss him a buck?

Naaah. It's gotta be the heat . . .

Hayes, Computerworld's staff columnist, has covered IT for 20 years. His e-mail address is [frank\\_hayes@computerworld.com](mailto:frank_hayes@computerworld.com).

*What it's really about for Microsoft, as usual, is controlling the universe.*



## SHARK TANK

**GETTING IT STAFFERS** to hang around the Shark Tank this New Year's Eve is turning out to be tough. But not at Lexis-Nexis. Sharky hears that the online information outfit has more volunteers than it needs to watch the final countdown to Y2K. "We thought it would be hard to get people to come in," says Judi Copler, a Lexis-Nexis Y2K manager. "But it's just the opposite. Everybody wants to be here." Maybe it's the party she has planned. But the Shark suspects staffers may just want to see up close what the world's biggest train wreck looks like.

**MEANWHILE, IN RUSSIA,** Y2K programmers don't have much to party about. Sources behind the Rust Curtain tell Sharky the year 2000 outlook is pretty frosty. "To be honest, the situation isn't too good," says Andrey Terehkov, general manager of Lanit Holdings, a St. Petersburg-based systems integrator. Government officials understand the problem, he says. Heck, everybody understands the problem. There just isn't enough money to work on it.

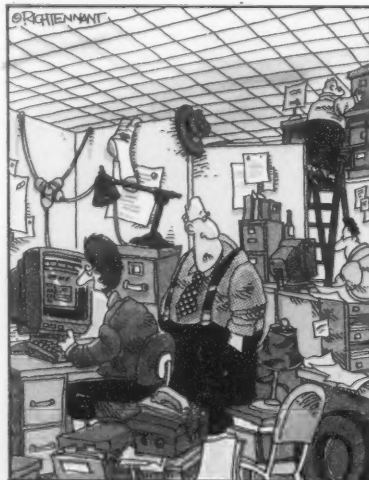
**SHARKY SMELLS BLOOD** in the water between in-house soft-

ware developers and system administrators once Windows 2000 arrives. A Forrester Research survey found 72% of sysadmins want to wipe out older applications that don't use new features like Active Directory. Survey says once Windows 2000 shows up, administrators are going to pressure developers to upgrade all those apps no matter the cost. Yeah, right. Win2K right after Y2K? Good luck.

**WHAT WILL REALLY HAPPEN** if the FBI officially monitors the Internet to watch for hackers, terrorists and other "intruders"? A no-brainer, says David Remnitz, founder of the New York-based security consultancy Ifsec: "More people will use encryption as a standard," he says.

But who needs hacking to screw up security? A Friend of the Tank keeps getting résumés, sales estimates and proprietary info intended for a big real estate company 3,000 miles away, whose domain name is one letter different. Apparently, nobody takes typing classes anymore. To talk to Sharky, type the following e-mail address very carefully: [sharky@computerworld.com](mailto:sharky@computerworld.com).

## The 5th Wave



"Just how accurately should my Web site reflect my place of business?"

Illustration by Rick Remnitz



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